STATE DOCUMENTS

STATE of MONTANA

STATE HIGHWAY COMMISSION

HELENA, MONTANA

BIENNIAL REPORT

FISCAL PERIOD
July 1, 1958 to June 30, 1960

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STATE of MONTANA

STATE HIGHWAY COMMISSION

HELENA, MONTANA

BIENNIAL REPORT

FISCAL PERIOD
July 1, 1958 to June 30, 1960

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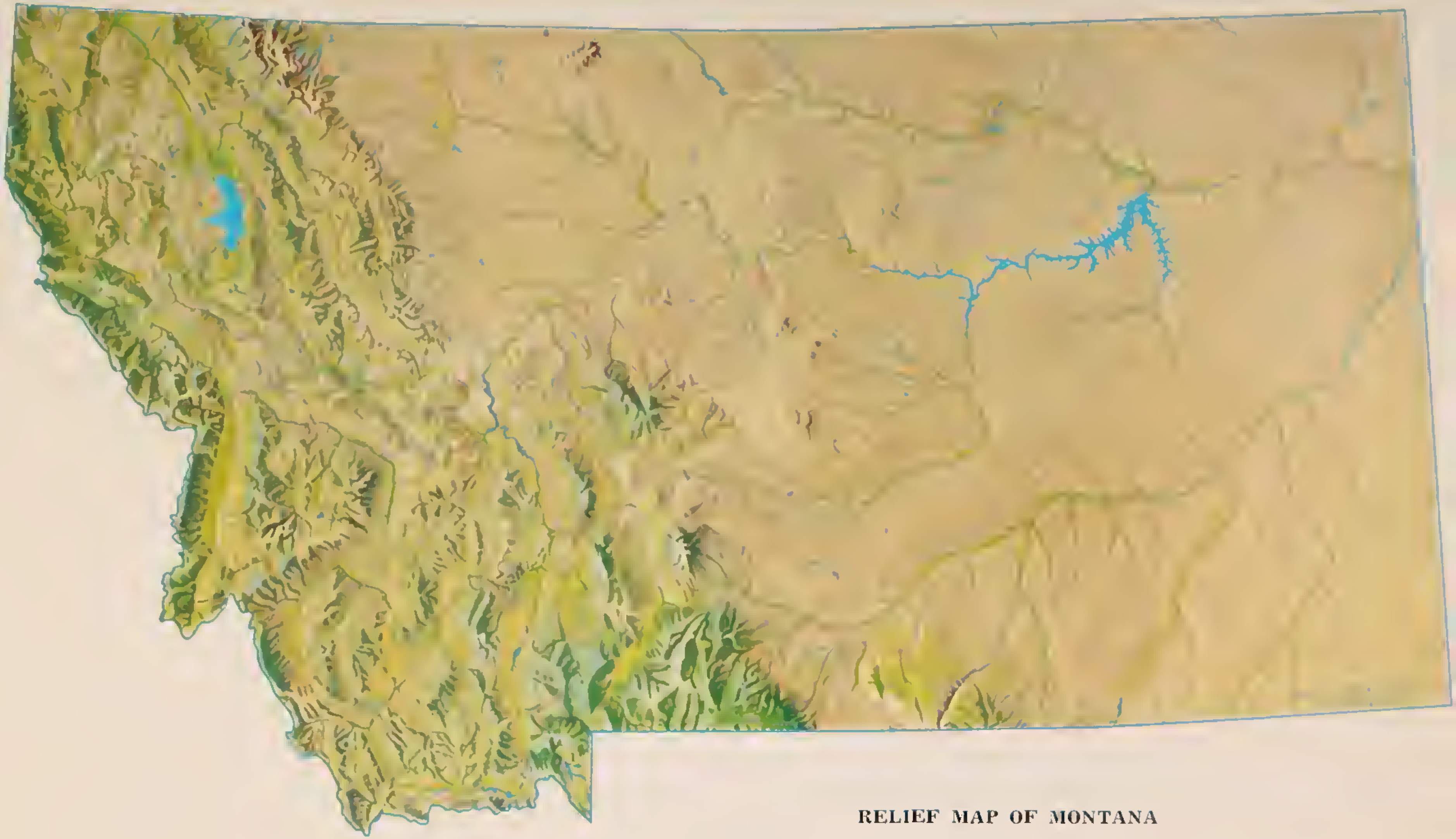

RELIEF MAP OF MONTANA

Montana is a land of mountains and plains; streams, reservoirs and normally dry water courses; rocks, rich soil and gumbo; forests, grain fields and pastures; moisture and drought; heat and cold. It is under such conditions we live, conduct our businesses and build our highways.

BIENNIAL REPORT

July 1, 1958 to June 30, 1960

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STATE OF MONTANA
J. HUGO ARONSON, GOVERNOR

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FRED QUINNELL, JR.
STATE HIGHWAY ENGINEER

HIGHWAY COMMISSION

STATE HIGHWAY DEPARTMENT
HELENA, MONTANA

IN REPLY REFER TO

November 10, 1960

Honorable J. Hugo Aronson,
Governor of Montana, and
The Legislative Assembly of the State
of Montana

Greetings:

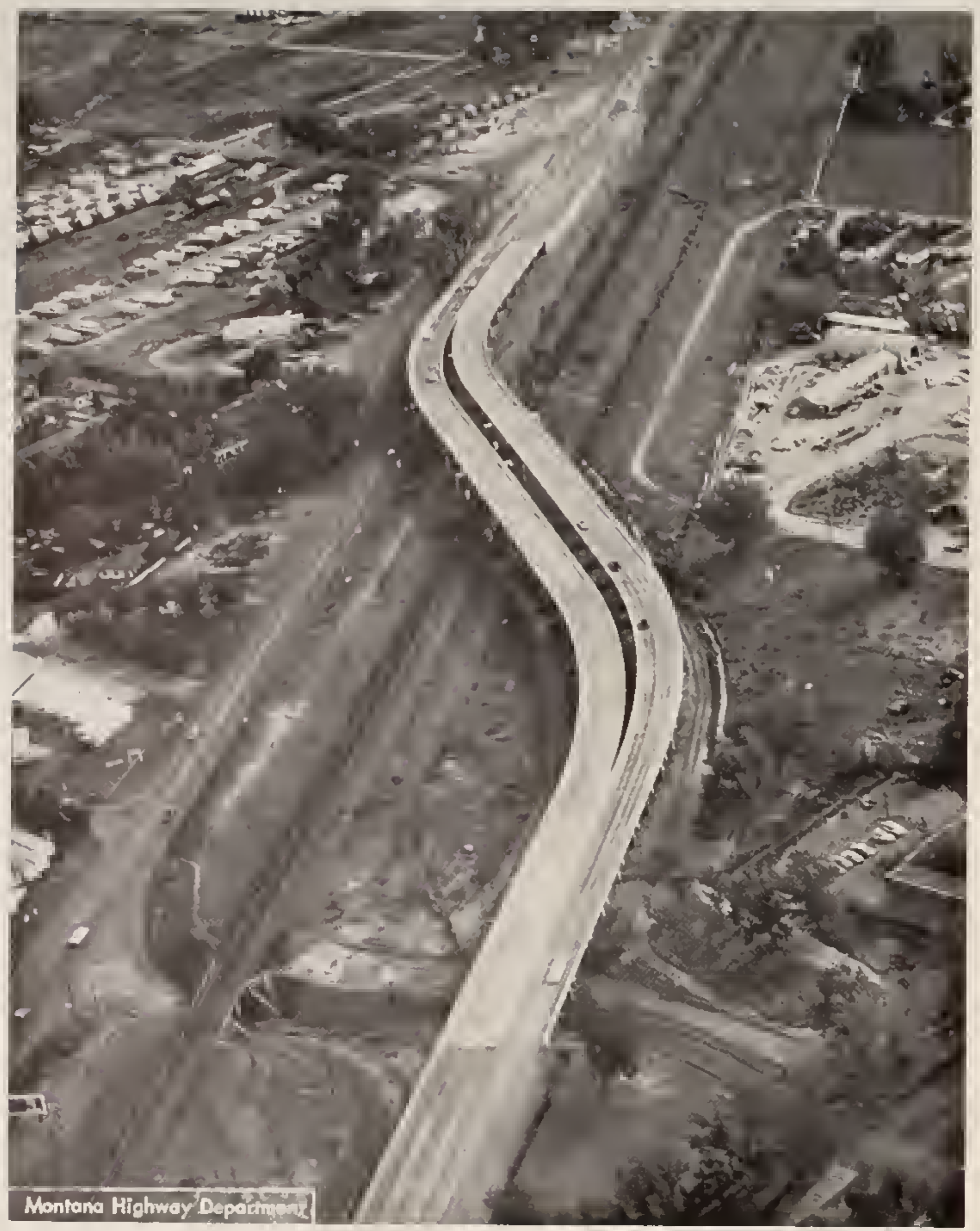
Pursuant to the provisions of Section 1, Chapter 98, Session Laws of Montana, 1959, we have the honor to submit to you our biennial report covering the fiscal period beginning July 1, 1958, and ending June 30, 1960.

Respectfully submitted,

STATE HIGHWAY COMMISSION

By__________________________
Harry L. Burns
Chairman

New four-lane overpass U. S. 10 at Billings.
Old underpass in lower left corner.



STATE HIGHWAY COMMISSION

HELENA, MONTANA

August 23, 1960

The Honorable J. Hugo Aronson, Governor of Montana
The Legislative Assembly of the State of Montana
The Highway User

Greetings:

The use and operation of street and highway systems, of all the functions of government, are the most intimate in the everyday lives of the people. We are totally dependent upon transportation, whether it be people or commodities and, to the vast majority, transportation means travel in our own vehicles.

The road and street system that serves the people of Montana aggregates a total of some 74,800 miles. The State Highway Commission is charged with the administration, construction, and maintenance of some 5,900 miles which comprise the primary system. The interstate system, a total of about 1,235 miles, is included in primary mileage. The secondary system totals some 5,154 miles. Construction and improvement of this system is performed by the Montana Highway Department but maintenance is done by the various counties. The selection and routing of all secondary roads lies in the hands of the County Commissioners, subject to approval of the Bureau of Public Roads and the State Highway Commission. The Highway Department acquires the right-of-way in practically all cases. Federal funds are used in the development of all such highways.

The administration, construction and maintenance of the highway system involves the expenditure of vast sums of money each year. The administrator is continually confronted with exceedingly complex problems of finance, location, research, planning, design, construction, maintenance and dissemination of information to the public. There are many others not named here.

The accomplishments of the Montana Highway Department during the biennium covered by this report should not be degraded in any way. They really are outstanding when compared to preceding bienniums. Of course, it was during this biennium that the construction of the interstate system began to take effect and that circumstance added greatly to what has been accomplished. We must, however, and in all fairness, render credit to those who deserve it—the personnel and organization of the Montana Highway Department—without whose zeal and cooperation the results would have been far less gratifying.

The earthquake which occurred in August 1959 in the Madison County-Yellowstone Park area was a major disaster in many ways. While many lives were lost, for which we truly grieve, there was an unassessable amount of physical damage. We are very proud to state that Highway Department personnel were the first on the scene to render assistance to stricken people. They worked ceaselessly, providing comfort where needed and moving campers from the disaster area. All personnel, equipment and radio facilities in the area were pressed into service in this endeavor. The major portion of damage to highways occurred within National Forest areas. Since it is the responsibility of the United States government to replace such roads that are lost, the Federal agencies are now working on that project. The Raynolds Pass route, which bypasses the slide area, is planned to be under construction in 1961. The route along the Madison River will be reconstructed as soon as Federal funds are available.

Various maps, narrations, reports, and statistical tables contained in this report reflect the accomplishments and functions of the many components comprising the Highway Department. Many readers will be particularly interested in the following:

Financial Report	Highway Maintenance Report
Highway Construction Report	Personnel Report
Right of Way Report	

These are followed by reports and information concerning various other components of the Highway Department. Maps and charts have been included to further amplify the information contained in the report.

Some of the information provided by this report antedates July 1, 1958. It has been deemed advisable to include such information, in some cases, because of the fact that several years have passed since a complete report covering the functions and accomplishments of the State Highway Commission has been prepared and submitted to the Governor and the Legislative Assembly. Such information should not be necessary in subsequent reports.

It is quite probable that, as hard as we tried to anticipate all practical questions, we have failed to do so in some respects. We are entirely receptive to suggestions and advice that will serve to improve our next report.

During this biennium we completed new highway buildings in Billings and Great Falls for District and Division offices. A few years before we built a new office and shop at Havre. These new facilties enabled us to move our personnel and equipment into modern shelters and away from areas of congested city traffic. Also, shortly before this biennium, we completed a sorely needed addition to the Highway Department building in Helena.

It has been necessary that we substantially increase the number of personnel on our legal staff. When we first took office in 1953, we had only one attorney on a part-time basis. Now we have a variable number of about six on full-time. The complexity of legal problems, principally in connection with right-of-way acquisition, has increased by leaps and bounds in recent years. Our functions pertaining to enforcement of gross vehicle weight regulations in trucking operations also necessitate considerable legal advice—it is practically an every-day requirement.

The biennium upon which we are reporting has been, without a doubt, the greatest, both financially and physically, in the forty-five year history of the State Highway Commission. We are equally sure that it will be exceeded in the future. The basic reason for this is the 1944 Highway Act, and amendments, enacted by The Congress of the United States. We have made a good start on our share of the overall 41,000 mile system of interstate highways, which will be about 1180 miles when completed. We have, at the same time kept pace with, or exceeded, the record of improvements to the primary and secondary systems which are not a part of the interstate system. No financial district has been neglected.

The basic percentage of Federal-aid for highway construction is ninety per cent on the interstate system and fifty per cent on the primary and secondary systems. There are some modifications of those percentages in special cases. The vast areas of Federally owned lands in Montana increase those two percentages to slightly variable figures approximating ninety-one and three-tenths per cent and fifty-six and seven-tenths per cent.

When one of our highways traverses an Indian reservation, the Federal-aid is one hundred per cent on those areas where the land title is controlled by the tribe or a tribal trust. If some of that land is owned by non-Indian people, the regular percentage is applied.

Another variation is in the case of railroad crossings. If an overpass or underpass is of benefit to the railroad, then the railroad pays ten per cent of the cost and the Federal-aid is ninety per cent. If a new highway crosses a railroad where there was previously no crossing, the Federal-aid is one hundred per cent. Generally speaking, the State investment in separated railroad crossings is comparatively small.

Each fiscal year The Congress makes an appropriation called "Federal Lands Funds" which is placed in charge of the Commissioner of Public Roads to be distributed anywhere in the United States at his discretion. This appropriation is rather small compared to other appropriations for highways. This money can be used, if available, when a state highway traverses public lands. One outstanding case in Montana, where such funds are eligible, was in our crossing of the Fort Peck Game Refuge, a distance of ten and nine-tenths miles, between Grassrange and Malta. This involved some highway and the Fred Robinson Bridge across the Missouri River. Federal lands funds were duly and properly requested but all that was forthcoming, after several persistent attempts, was six hundred thousand dollars over a two-year period. This was, of course, gratefully received. Another eligible application was the Lolo Pass Highway southwest of Missoula. Here all of the available funds were applied in Idaho—none were available for Montana.

The State Highway Commission has not, to the best of our knowledge, neglected a single opportunity to obtain any of the Federal funds discussed above and has tried every device available to such purposes.

Public reactions to the numerous innovations of the interstate system and the Federal laws and regulations which govern its development, have been many and varied. In order to acquaint the people with the many new features of the system, Federal statutes require that any time a highway route is to be changed with respect to any village or city, a public hearing must be conducted prior to the change. This we have done in all cases. Public hearings are held for all changes in interstate routing, whether or not a city is being bypassed. All interested persons are invited to attend, to ask questions, and to state their individual cases. We explain our problems and our intentions to the best of our ability, using maps, charts, aerial photographs, and any other available material.

One of the most confusing and most troublesome regulations of the interstate system is the "limited or controlled access" feature, which provides that motorists cannot enter or leave the highway at other than designated points. This is essentially a safety feature, and statistics reveal fewer accidents per vehicle mile on controlled access highways than on other types. In order to obviate as much inconvenience as possible, interchanges, underpasses, and overpasses are built wherever feasible.

The criteria governing the location of interstate routes stipulate that such roads must

— connect, as directly as possible, the maximum number of cities and towns;

— traverse the most populous areas to serve a maximum number of people;

— provide transportation facilities as safe and direct as possible.

These criteria we have followed to the best of our ability.

Due consideration must be given to the following factors in the location of an interstate highway:

Topography
Soil types and uses
Right of Way costs
Distance
Construction Costs
Future maintenance
Economic Conditions
Effects on Properties
Effect on community

This, also, we do as best we can.

We are continually beset with problems of various sorts in our development and improvement of the highway system. That's the way it was thirty years ago and the same will prevail thirty years hence. One of our most perplexing problems this day and age pertains to the procurement of highway right-of-way. We can remember when land owners were glad to be able to sell a parcel of ground to obtain a good road and a little sorely needed money. Nowadays, the need for the money appears to be not as crucial and is, at times, a detriment, due to taxes. So, we find it exceedingly difficult to acquire needed right-of-way. That feature is one of our perplexing retardants to rapid achievement about which many people are complaining. They say we are far behind other states in developing our highways. (We contest that statement.) Many of our land acquisition laws could be improved to the benefit of the State and its municipalities. We need laws that will permit quick acquisition and yet render fair treatment to both the property owner and the people who are buying the right-of-way. We intend to request the 1961 Legislative Assembly to enact a few equitable revisions of the statutes.

Financing of our highway system development and maintenance always has been a crucial and perplexing problem. Rarely, since the founding of the State Highway Commission, has the legislature not been requested to provide more money for highways. For the first time that we can readily recall, we are now in such a position that we are not asking the 1961 Legislative Assembly for more money. During the past biennium we have been able to collect some seven million dollars in Federal-aid that became available because of changed Federal regulations; we have seen a substantial increase in gasoline tax collections, probably for two reasons, tighter controls on refunds and increased consumption; collections of special fuel taxes have increased; there have been substantial increases in collections of motor vehicle taxes on trucks and like vehicles, due to more strict enforcement procedures and the proration agreements with other western states; our work has been performed with a higher degree of efficiency at less cost. We now have sufficient income in sight to finance all present foreseeable Federal-aid for the fiscal years 1961, 1962, and 1963. There is, of course, a possibility that future sessions of The Congress will make more money available in the way of Federal-aid, but we certainly cannot and will not, at this time, request an increase in State funds upon such a conjecture.

Respectfully presented

STATE HIGHWAY COMMISSION

Harry L. Burns, Chairman

L. V. Swanson, Vice-Chairman

S. N. Halvorson, Member

Otis S. Waters, Member

Roy L. Sorrells, Member

! How the Picture Has Changed !

The records of the past thirty years, if they could be portrayed on a screen, would present an extremely interesting and colorful picture to any person having the least vestige of interest in Montana's highway system. Good, up-to-date all-weather roads were few and far between in those early days. Many of us can recall, quite vividly, the days when we tried to drive from Billings to Glendive—Great Falls to Havre—Missoula to Kalispell, during or soon after a rainstorm. The sight of a graveled road, even full of corrugations, was most welcome after driving in wet ruts eight or more inches deep. Montana's highways offered very little pavement prior to 1930. The records indicate that we had twenty-four miles of oiled highway and thirty-four miles of concrete highway in 1930. In a state the size of ours, that is a very low percentage of reliable highway.

Those were the days when we built our roads, for the greatest part, by mule and fresno, horse and plow, sweat and grit. Then came the elevating grader, which really could move a great deal of plain dirt in one day. Why, some months, a contractor could move as much as 20,000 cubic yards—remarkable—if the going was good. Then, someone moved in with the gas shovel and loaded into trucks, some of which could carry as much as six cubic yards of dirt or rock. Then progress dictated the use of the "cat and can," and with their advent the mule and horse were relegated to the lush green pastures. We can recall one occasion, in 1933, when a contractor was credited with a progress estimate showing the placement of slightly more than 100,000 cubic yards of earth in one month by using shovels and cans. We'd hit the roof!!? Had we?? By the early fifties, a contractor's estimate showing 200-300,000 cubic yards of earth movement in one month was normal.

During the early thirties, we began to spread more and more gravel on our highways—getting ourselves out of the mud. We also put into the field a State-operated oiling crew. The records for 1935 show that we were enjoying some 494 miles of oiled or paved highways. Many of the miles of highway we oiled in those days "lasted quick" because we could not afford to put a substantial base under the pavement, but they sure were fine to drive on when we could keep them in adequate repair.

There were not many automobiles in those early days either, and very few heavy trucks. Many a mile of road was surfaced with a scant six inches of gravel and an inch or so of oiled mat, but it was adequate for the traffic. That picture changed quite rapidly after 1945. The average daily traffic had doubled and tripled and the trucks became bigger and bigger, carrying unbelievably heavy loads. Then, unless our seven inches of surfacing was resting on a remarkably good base, it disintegrated and was a continual maintenance problem.

The State's economy dictated narrow bridges which were fine when only fifty cars passed over in one day, but when the volume passed five hundred per day, they were woefully narrow. So we had to widen old bridges or build new ones of steel and concrete—the latter being the best choice.

We could engineer our whole highway program with less than a couple hundred men in those early days. Improvements moved slowly and an engineering crew of three men could handle almost any project. The inevitable progress in road building equipment and the demands of the traveling public for more and better highways naturally required an expedited program so we had to add more and more engineers to keep pace. By the fifties, their number was approaching seven hundred. We had to be assured that the highway was built as high and wide and long as specified and that all materials incorporated therein would meet all necessary tests. It was, and still is, a momentous assignment—to see that Mr. John Q. Public receives that for which he is paying.

The overall cost of a new highway, per mile, has increased considerably since 1930. At that time we could grade, drain and gravel a mile of up-to-date highway for an average of about $9,000. Now, we must figure about $61,000 per mile on primary and $330,000 per mile on four-lane interstate, including pavement. These figures do not include right-of-way and engineering. Nowadays, we must figure that a 24 foot by 2½ inch plant mix paving job will cost about $27,000 per mile. Of course, in those early days right-of-way was a minor cost per mile as many property owners were pleased to receive the cash and get a good road besides—many even gave the State the right-of-way. Now, the good taxpayers pay an average of $31,000 per mile for right-of-way privileges on interstate and about $20,000 to $25,000 per mile on other primary and secondary. Engineering will generally be less than five per cent of the construction cost. In the early thirties, grading averaged about 16,500 cubic yards per mile; in 1959-60, it is running at about 66,800 cubic yards per mile. In those early days the projects were about sixteen miles in length; now they're about nine miles in length. The pavement and bridges are wider, the surfacing is thicker, the drainage facilities are more adequate and the road has fewer sharp curves. All of these features, demanded by the traveling public in the interests of convenience and safety, just naturally cost more money.

The costs of some of the components of a constructed highway have increased as much as three times during the past thirty years—some have remained the same. Table 'A' on Page 7 reflects average bid prices over that period of time. Note that those items produced by nature and adapted by man with a minimum effort (dirt, gravel and road oil) have remained stable in price. Man's productive ingenuity accounts for that. Any product involving considerable processing and haul reflects substantial price increase. For example, for 1930 we showed that a total of 4,798,900 cubic yards of unclassified excavation was let to contract at an average price of $0.26 per cubic yard. During the first six months of 1960, we awarded 14,477,000 cubic yards at an average price of $0.224.

Table 'B' also reflects some interesting information. All of the figures concern highways only, as let to contract.

The tables on Pages 8 and 9 show the mileage of various types that have been constructed on the primary and secondary systems to the date of December 31, 1959. The three maps on Pages 13, 15 and 17 show the secondary, interstate and primary systems, respectively. Page 17 alone shows the Financial Districts, Counties and primary System. By laying Pages 13 and 15 on top, one can attain a picture of the entire system.

Maintenance of the State highway system is another function that has undergone tremendous growth, both in mileage and costs. The fiscal period from July 1, 1931 to June 30, 1932 reflected a cost of $788,700 for maintaining some 3,400 miles of highway. The cost for the fiscal period July 1, 1958 to June 30, 1959 was $4,450,000 for maintaining some 5,800 miles of highway. The costs per mile are about $232 and $767 respectively. In 1932 we had about 711 miles unsurfaced, 2,235 miles graveled, 38 miles of concrete and 408 miles oiled; in 1959 they were about 75 unsurfaced, 70 graveled, 23 concrete and 5,020 oiled. These costs cover routine maintenance operations such as patching, mowing, sanding, snow removal, signs and the like.

A new function was added to our operations in 1936 when the Planning Survey Division was created. The operations of this Division were financed by Federal-aid at about 57% and State funds at about 43%. The functions of this Division include state mapping as reflected in a modern uniform system of county maps based upon aerial photography, counting of traffic on all road systems, traffic and parking surveys of various sorts, economic studies of various sections and routes, compilation of statistics pertaining to highways, preparation of city plats and many other functions of variable magnitude. The funds, since inception of the interstate System, are divided at about 75% Federal-aid and 25% State.

The testing laboratory was a very small component in the early days. Six people handled the work in 1929. Work and obligations increased with the expanded highway program until, in 1935, some twenty employees processed an average of 340 samples per month, even though confined to the old Capitol dungeon. The further expanded program of 1959, and more rigid requirements concerning quality of materials, expanded the regular personnel complement to about forty in the Laboratory in Helena and some fifty more in the Division offices and on testing crews. During that year the Helena Laboratory personnel processed an average of 860 samples per month. Another fifty or so temporary employees will be added during the rush of the short construction season. Oh yes! The Laboratory was moved, in 1955-56, into a very fine new building provided by the Legislative Assembly and working conditions are the very best.

During the past two or three years we have been doing some things that we only dreamed or heard about in the early days. The ever-increasing demands of various types of traffic and the public in general have caused the highway department to enter the fields of highway lighting, traffic signals, modern signs, fences, seeding and mulching and numerous other innovations. Along with the term "controlled access" on our interstate system, we have interchanges of various designs to meet special traffic problems—the interchange where, if you wish to go south, you turn north, etc.—those complicated diamond-shaped or clover-leaf affairs that seem to confuse the driver no end, but which are necessary to safety and progress when driving from here to there.

This biennium has undergone some other administrative and functional changes that have worked out very satisfactorily. We have made use of airplanes to transport staff personnel to important meetings both in and out of state. This has proven to be a real money saver because the men are away from their assignments only a very short period of time. We also use aircraft to perform our own aerial photography of highway locations and other related conditions. We find this much less expensive and far more satisfactory than contract work. A Kelsh plotter, acquired in 1959, extracts valuable survey data from these photographs in only a few hours whereas conventional methods would require many man days. Another new machine, rented in 1959, performs all types of computations and tabulations at phenominal speeds and accuracy. Some people call it an "electronic brain." It is a real time-and-cost-saver in our operations, especially in highway design and construction, accounting and statistics.

Another significant change, made in 1957, was the decentralization of many functions previously performed entirely in Helena. We created five District Engineers whose territories approximate those of each of the five State Highway Commissioners. Some roadway design, right-of-way acquisition and other appropriate functions are performed there instead of entirely at headquarters. The system is working very well.

The Congress passed the so-called Interstate Highway Act in 1944, but practically nothing was done on that system, in Montana, until after 1958. Now we have completed a few sections of this modern highway, have several more under contract and many more on the drawing boards. When this system is all constructed, say about 1970-75, we will not regret the grief we went through in getting the job done—building a system of highways which we now believe will, in 1975, be fully compatible with the demands of the traveling public. If our experiences of the past are a reliable criteria, we will find ourselves wishing we had made these new highways straighter, wider, higher and thicker. Let us trust, however, that we have estimated correctly.

Fred Quinnell, Jr.,
State Highway Engineer

OLD vs. NEW

A view of the Interstate Highway System east of Glendive.

TABLE 'A'—AVERAGE PRICES

		1930	1935	1940	1945	1950	1955	1960(e)
Unclassified	Cu. Yds.	4,798,900	6,892,900	7,293,100	1,626,000	4,170,900	19,036,400	29,000,000
Excavation (b)	Price	0.26	0.28	0.20	0.22	0.36	0.27	0.23
Base Course	Tons	427,000	676,370	1,365,850	474,000	142,400	2,008,800	1,853,000
Gravel (3" Max.)	Price	0.63	0.87	0.60	0.81	1.09(a)	0.88(a)	0.59(c)
Top Course Gravel	Tons	341,000	360,638	456,200	154,200	773,200	817,300	960,000
	Price	0.91	1.30	0.81	1.16	1.27	1.20	1.10
Medium Curing	Gallons	...	1,801,220	1,947,800	...	2,499,400	3,278,700	3,600,000
Road Oil	Price	.	0.10	0.10	......	0.16	0.16	0.17
Asphalt Cement	Gallons		....	..	305,100	117,800	625,900	19,100,000
Road Oil	Price		——	....	0.10	0.16	0.13	0.12
Class 'AD' Concrete	Cu. Yds.	3,050	8,960	1,170	440	1,600	3,600	15,000
(Structures)	Price	23.20	26.28	27.62	39.18	65.51	81.22	69.70
Reinforcing Steel	Pounds	1,326,800	3,267,680	446,650	142,700	571,900	993,200	4,400,000
	Price	0.05	0.06	0.06	0.08	0.15	0.15	0.15
30 Ft. Treated	Number	240	770	580	140	160	84	60
Timber Piles	Price	26.94	34.13	28.20	48.43	67.39	85.76	74.60
36 Inch Corrugated	Lin. Ft.	5,560	5,390	5,900	1,200	2,000	4,233	4,300
Metal Pipe—12 Gage	Price	4.30	4.95	5.75	6.76	10.70	13.40	13.30
36 Inch Reinforced	Lin. Ft.	2,530	3,310	3,260	1,210	1,850	4,014	2,700
Concrete Pipe (d)	Price	6.88	7.54	6.83	8.33	12.75	13.30	19.70

(a) Pit Run. (b) General run of roadway excavation. (c) Crushed.
(d) Average Strength. (e) Estimated upon basis of lettings for first 6 months.

TABLE 'B'—COMPARATIVE QUANTITIES

	1930	1935	1940	1945	1950	1955	1960*
Total Value of Contract Awards	$3,020,500	$7,163,000	$5,499,000	$2,047,800	$9,729,000	$19,043,400	$15,000,000
Miles of Work Let to Contract	585	575	470	51	522	660	700
Miles Oiled and/or Paved During Year	..	494	370	37	462	616	650
Existing Miles Bituminous Surfacing	24	3,078	4,370	4,587	5,529	6,508	7,700
Existing Miles Rigid Pavement	34	46	23	23	43	33	64

* Quantities estimated from lettings of first six months.

FEDERAL AID PRIMARY SYSTEM

SUMMARY OF SURFACE TYPES

NET CONSTRUCTED LENGTH

• GRAVEL AND PAVEMENT

COUNTY	PRIMITIVE (TRAILS)		UNIMPROVED	GRADED AND DRAINED		GRAVELLED		LIGHTLY OILED		BITUMINOUS ROAD MIX UNDER 7" THICK •		BITUMINOUS ROAD MIX OVER 7" THICK •		BITUMINOUS PLANT MIX UNDER 7" THICK •		BITUMINOUS PLANT MIX OVER 7" THICK •		BITUMINOUS CONCRETE		PORT. CEMENT CONCRETE		BRICK	COMBINED	TOTAL PRIMARY	TOTAL PRIMARY	GRAND TOTAL
	RURAL	MUNIC.	RURAL	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	MUNIC.	MUNIC.	RURAL	MUNIC.	
Beaverhead	8.442		0.123	16.175				45.343	0.307	3.675		68.995	0.033			12.614	1.386							155.372	1.726	157.098
Big Horn								7.455		8.477		59.516	1.477			64.303			0.034					139.751	1.511	141.262
Blaine								13.571		4.686		22.994	1.293			12.776								54.027	1.293	55.320
Broadwater								20.972	0.878	10.121		41.172	1.107			7.354								79.619	1.985	81.604
Carbon								14.924		9.713		60.609	3.134			3.773					0.432			89.019	3.566	92.585
Carter								21.845				16.441				11.719	1.049							50.005	1.049	51.054
Cascade						2.700		24.274		1.177	0.407	88.334	2.845	28.114	3.321	49.159	5.101	1.401	7.278		0.749			195.159	20.701	215.860
Chouteau								36.511	0.642	10.621		21.632				3.812								72.576	0.642	73.218
Custer								68.278	0.370	24.290	0.467	53.385	0.869			12.300			0.400		1.169			158.253	3.275	161.528
Daniels								46.596	0.289				1.053											46.596	1.342	47.938
Dawson	0.742							5.354		25.488		37.844	1.053			58.220	0.538			0.240	0.565			127.943	2.156	130.099
Deer Lodge			0.037					14.937		0.279		25.964	0.949			14.674			1.263	6.571	0.177		0.415	62.647	2.804	65.451
Fallon							0.144	49.328	1.237			14.973	1.524			18.878	0.457							83.179	3.362	86.541
Fergus	10.000			4.040		20.415		29.425		2.516	0.501	83.594	0.753			27.773	0.287			1.247	1.951			179.010	3.492	182.502
Flathead								4.594		24.823		127.801	1.069			54.054	2.412		0.836		0.491		0.005	211.272	4.813	216.085
Gallatin		1.250			0.568			54.678	0.175	24.724	0.207	26.085	1.143	0.559	0.791	32.917	0.697		2.184		0.342			122.843	7.357	130.200
Garfield						0.302		35.785		23.762		66.400	0.602			8.103								134.351	0.602	134.953
Glacier	1.287							38.300		36.913		66.994	0.719			19.858	1.039							163.352	1.758	165.110
Golden Valley								12.514	1.876	2.083		25.070												39.667	1.876	41.543
Granite				20.931		7.064		13.735		6.566	0.370	28.741	0.851			15.762								92.799	1.221	94.020
Hill								5.093		18.873		27.183	0.476			27.287	1.094				0.352			78.436	1.922	80.358
Jefferson								6.224		17.955		64.163	0.641			17.301	1.511							105.733	2.152	107.885
Judith Basin								3.967		5.825		51.373	0.222											61.165	0.222	61.387
Lake								24.849		14.568		39.324	0.931			34.419	0.776							113.160	1.707	114.867
Lewis & Clark								54.826	0.567	29.889	2.929	42.932		16.175		41.347	3.339		1.220		0.783	0.035		185.169	8.873	194.042
Liberty								0.983		4.017		19.728	0.859											24.728	0.859	25.587
Lincoln						0.333		58.397	0.073	43.462	0.424	47.361	2.536	11.310		5.320					0.186			171.883	3.219	175.102
Madison			21.000							63.462	0.662	67.419	3.081			5.167	1.576							157.048	5.319	162.367
McCone	39.020					20.421		5.701		27.363	0.398	56.429	1.179											148.934	1.577	150.511
Meagher								13.940		5.051	0.976	64.440				17.377					0.245			100.808	1.221	102.029
Mineral				0.218						6.827	1.754	25.358	0.843			42.583	0.475							75.368	3.072	78.440
Missoula								[illegible]	0.558	15.774	1.434	60.941	1.548			22.185	1.267		1.045		0.314	0.003	0.324	120.804	6.598	127.402
Musselshell								17.343	1.654	13.723		49.291	1.616			5.953	0.151		0.559				0.395	98.540	3.773	102.315
Park						11.326		24.701		22.836		49.182	2.649	1.523		12.191			0.241					121.759	2.890	124.649
Petroleum								7.983		15.104	0.897	15.934												39.021	0.897	39.918
Phillips								12.176	0.162	[illegible]		[illegible]	3.081			30.235					0.069			121.842	3.312	125.204
Pondera								12.052		21.782		18.245	0.503											52.137	0.503	52.640
Powder River								22.288	0.229			[illegible]	0.339			46.013								89.568	0.568	90.136
Powell						11.519		[illegible]		[illegible]	0.249	15.259	0.071			22.189			0.743					90.629	1.063	91.692
Prairie										[illegible]		18.075	1.002			[illegible]								27.737	1.002	28.739
Ravalli	6.105			[illegible]				[illegible]		[illegible]	[illegible]	47.432	[illegible]								0.018			101.086	2.107	103.193
Richland								57.603		17.484		41.072	2.740											118.659	2.740	121.399
Roosevelt								79.951	1.736	18.272	0.813	17.417	0.421			27.738	1.341				0.139			143.378	4.450	147.828
Rosebud						15.691		35.759	0.323	6.371		60.457				29.626	1.785							147.904	2.108	150.012
Sanders								46.627	[illegible]	14.756	0.103	55.366	[illegible]			29.870	0.401						0.459	146.619	1.854	148.473
Sheridan								22.592	1.271	16.393		37.036	1.010											76.021	2.281	78.302
Silver Bow								12.719	2.205	13.173		26.344	2.069			10.754		0.008	2.583	2.549	0.736		0.560	65.597	8.153	73.750
Stillwater								1.376				36.613	0.588											37.989	0.588	38.577
Sweet Grass								22.100		7.223	0.516	20.364				14.434	0.887							64.121	1.403	65.524
Teton								21.182	0.866	11.194	1.175	35.149	1.032			40.773								88.298	3.073	91.371
Toole								17.272		18.922	0.291	24.440				24.287	2.283							84.921	2.574	87.495
Treasure												28.805												28.805		28.805
Valley								17.474	0.879	3.641		54.943	1.024			22.033					0.150			98.091	2.053	100.144
Wheatland								19.628	0.001	17.233	0.060	23.120	1.000			18.247	0.625							78.228	1.686	79.914
Wibaux								24.383				14.234	2.043											38.617	2.043	40.660
Yellowstone								19.714		20.443		106.641	1.475			18.928	3.562		0.894	0.058	0.402		1.873	165.784	8.206	173.990
TOTAL	58.646	1.250	21.160	51.408	0.568	89.771	0.144	1317.344	15.024	333.209	14.465	2425.961	59.265	57.681	4.112	988.663	35.539	1.409	19.280	10.665	9.270	0.038	4.031	5746.097	163.001	5909.098

FEDERAL AID SECONDARY SYSTEM

SUMMARY OF SURFACE TYPES

NET CONSTRUCTED LENGTH

* GRAVEL AND PAVEMENT

COUNTY		PRIMITIVE (TRAILS)		UNIMPROVED		GRADED AND DRAINED		GRAVELLED		LIGHTLY OILED		ROAD MIX				PLANT MIX			BIT. CONCRETE	PORT. CEMENT CONCRETE		BRICK	COMBINED		TOTAL SECONDARY	TOTAL SECONDARY	GRAND
												UNDER " THICK		OVER * THICK		UNDER 7"	7" & OVER	7" & OVER									
		RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	RURAL	RURAL	MUNIC.	MUNIC.	RURAL	MUNIC.	MUNIC.	RURAL	MUNIC.	RURAL	MUNIC.	TOTAL
Beaverhead	1							87.613		0.140				8.794											96.547		96.547
Big Horn	2	8.600						99.531	0.700	8.794	0.644			30.962											147.897	1.344	149.241
Blaine	3	14.400		5.400		20.299	0.340	103.162		1.465				5.731	1.064		39.343								189.800	1.404	191.204
Broadwater	4	2.000		10.878		1.000		6.700		3.567		4.969		16.473											45.587		45.587
Carbon	5							21.833		14.621	1.092			12.298	0.470		6.370								55.122	1.562	56.684
Carter	6					37.499		112.495						0.173											150.167		150.167
Cascade	7	2.100		6.000		8.300		51.574	0.200	22.425	2.630	4.124	1.046	31.826	0.213		7.039								133.388	4.089	137.477
Chouteau	8	3.200		1.500		69.083		62.517	0.953	22.591		1.666	1.944	11.661	0.241		17.182								189.402	3.188	192.590
Custer	9	7.400						68.256	0.509																75.656	0.509	76.165
Daniels	10							48.934		9.190	0.278			9.152	0.569										67.276	0.847	68.123
Dawson	11		0.200	2.600		46.257		31.386	0.644	17.365	0.625				0.126		10.037				0.265				107.645	1.860	109.505
Deer Lodge	12	0.188				2.443		5.476		5.841				24.355			2.840								41.143		41.143
Fallon	13	1.300				20.683		72.684	0.509																94.667	0.509	95.176
Fergus	14			18.200		6.700		46.605	0.685	17.166				21.998	0.821		14.067	0.392							124.736	1.898	126.634
Flathead	15	0.700		2.300		7.500		86.830		3.262	1.370	0.272		18.444			18.857								138.365	1.370	139.735
Gallatin	16	0.500		5.500	0.400	6.200		52.982		14.908	0.625	17.576	0.350	58.733	1.290		2.890	0.782	0.100	0.193					159.482	3.547	163.029
Garfield	17			0.900		40.475		46.734	0.320																88.109	0.320	88.429
Glacier	18	5.200		3.900		3.741		83.027		8.409	0.400	6.562	0.444	12.436			32.113								155.436	0.844	156.280
Golden Valley	19					2.000		16.900	1.215																18.900	1.215	20.115
Granite	20							20.177																	20.177		20.177
Hill	21			0.983		41.708		63.079	0.066	53.742	0.334		0.213	14.172	0.006		6.006		0.593		0.094				179.746	1.306	181.052
Jefferson	22					9.041	0.245	35.300	0.300	14.916		0.037	0.322	9.671											69.065	0.967	70.032
Judith Basin	23							38.812	0.400	0.122	1.388			15.130	0.464										54.064	2.252	56.316
Lake	24	0.900						24.200			0.400	2.600	0.400	9.265	0.279		42.643								79.608	1.079	80.687
Lewis & Clark	25			0.923		22.116		42.261		49.124	1.111	11.205		14.166			7.262	0.674	0.152						147.057	1.937	148.994
Liberty	26	6.000		3.000		18.689		41.369	0.538	7.831		31.048													107.937	0.538	108.475
Lincoln	27					4.245		4.549									12.616								21.410		21.410
Madison	28					5.100		40.390		8.443				22.868											76.801		76.801
McCone	29					22.200		53.341	0.500																75.541	0.500	76.041
Meagher	30							33.901	0.056		0.445			2.118			11.859								47.878	0.501	48.379
Mineral	31			0.600				9.046	1.103				0.373	3.616	0.873		3.391								16.653	2.349	19.002
Missoula	32	1.250		1.248	0.429	1.000		3.202	0.321	37.449	0.486	19.079	2.313	22.537	1.381	16.058	16.427		0.206						118.250	5.156	123.406
Musselshell	33					4.000		34.186		2.000							1.647								41.833		41.833
Park	34					1.200		35.049						4.309			10.136								50.694		50.694
Petroleum	35													11.679	1.314		10.057								21.736	1.314	23.050
Phillips	36			0.500				72.655	0.525					17.945	0.315		10.711								101.811	0.840	102.651
Pondera	37	1.300				5.348		38.397		10.024				42.691	1.304		15.201	0.158							112.961	1.462	114.423
Powder River	38	0.900		1.900		24.129		68.156									9.141								104.226		104.226
Powell	39					5.096		62.623		5.011															72.730		72.730
Prairie	40							46.295		6.195		1.265		2.197											55.952		55.952
Ravalli	41	0.800		0.800		2.200		27.366		9.672	0.540	10.923		24.103	0.058		15.557								91.421	0.598	92.019
Richland	42	7.200	0.385	0.757		32.647		44.603	1.115		0.400			11.449	0.369										96.456	2.269	98.725
Roosevelt	43	3.900		0.056	0.696	14.764		50.234	0.500	40.635				30.157			14.703								154.449	1.196	155.645
Rosebud	44	0.200				2.300		62.103		8.129				30.581			9.049								112.362		112.362
Sanders	45			16.300		8.382		13.900		7.837				6.170			8.152								60.741		60.741
Sheridan	46					6.300		8.556		21.116				6.045	0.636		11.499								53.516	0.636	54.152
Silver Bow	47			4.200		1.000		16.050		1.468	1.408	4.542	0.584	1.692			6.989	0.870	1.055			0.253			35.741	4.170	39.911
Stillwater	48							30.140				2.579		43.866	0.296		12.233								88.818	0.296	89.114
Sweet Grass	49			9.500		19.000		30.834	0.180		0.220		0.211	15.357	0.269										75.091	0.880	75.971
Teton	50			2.000		16.497		41.545		6.003				38.560	1.217		6.004								110.609	1.217	111.826
Toole	51	4.000		0.900		23.733		77.557		5.489				9.964	0.679			0.548							121.643	1.227	122.870
Treasure	52							44.520	0.400					0.007	0.095										44.527	0.495	45.022
Valley	53	1.600				6.600		90.282	0.701	20.865		0.600		28.632	1.377				0.200						148.579	2.278	150.857
Wheatland	54					8.709		37.253	0.214	0.800															46.762	0.214	46.976
Wibaux	55	7.000		12.191		1.500		37.087	0.283																57.778	0.283	58.061
Yellowstone	56			14.774		15.900	0.130	47.746		10.179		1.455	1.345	17.273			13.355		1.000				0.407	1.598	121.089	4.073	125.162
TOTAL		80.438	0.585	128.410	1.525	595.634	0.715	2574.441	12.937	459.544	14.201	100.602	9.563	729.075	15.776	16.058	403.858	3.444	3.306	0.193	0.359	0.253	0.407	1.598	5088.660	64.242	5152.902

Montana law requires that State highway construction funds be divided among the different systems and among the financial districts, counties and urban cities on the basis of prescribed formulas. The tables on this page show the distribution percentages for the fiscal years ending June 30, 1960 and June 30, 1961.

PRIMARY SYSTEM

(Based on deficient highway mileage)

Financial District	Counties	Percentages for FY 1960	Percentages for FY 1961
1	Flathead, Lincoln, Lake	9.9564	10.7312
2	Blaine, Glacier, Hill, Liberty, Toole	7.1322	6.9198
3	Daniels, Phillips, Roosevelt, Sheridan, Valley	10.6183	10.6078
4	Dawson, McCone, Prairie, Richland, Wibaux	11.7301	10.0197
5	Fergus, Garfield, Petroleum	7.0343	6.7355
6	Cascade, Judith Basin, Pondera, Teton	7.9300	8.8302
7	Broadwater, Jefferson, Lewis & Clark	3.6628	4.1385
8	Granite, Mineral, Missoula, Powell, Ravalli, Sanders	12.6334	11.2583
9	Beaverhead, Deer Lodge, Madison, Silver Bow	6.3342	5.8888
10	Gallatin, Meagher, Park, Sweet Grass, Wheatland	8.9150	9.3617
	Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Treasure, Yellowstone	6.7017	7.4313
12	Carter, Custer, Fallon, Powder River, Rosebud	7.3516	8.0772
	TOTAL	100.0000	100.0000

INTERSTATE SYSTEM

(Based on estimated needs to complete the system)

Financial District	Counties	Percentages for FY 1960	Percentages for FY 1961
2	Toole	2.5441	2.5441
4	Dawson, Prairie, Wibaux	4.9933	4.9933
6	Cascade, Pondera, Teton	7.8042	7.8042
7	Broadwater, Jefferson, Lewis & Clark	16.3766	16.3766
8	Granite, Mineral, Missoula, Powell	21.5570	21.5570
9	Beaverhead, Deer Lodge, Madison, Silver Bow	11.6567	11.6567
10	Gallatin, Park, Sweet Grass	10.6986	10.6986
11	Big Horn, Stillwater, Treasure, Yellowstone	18.6743	18.6743
12	Rosebud, Custer	5.6952	5.6952
	TOTAL	100.0000	100.0000

The Interstate System does not enter Financial Districts Number 1, 3 and 5 and some counties in other Districts.

URBAN CITIES

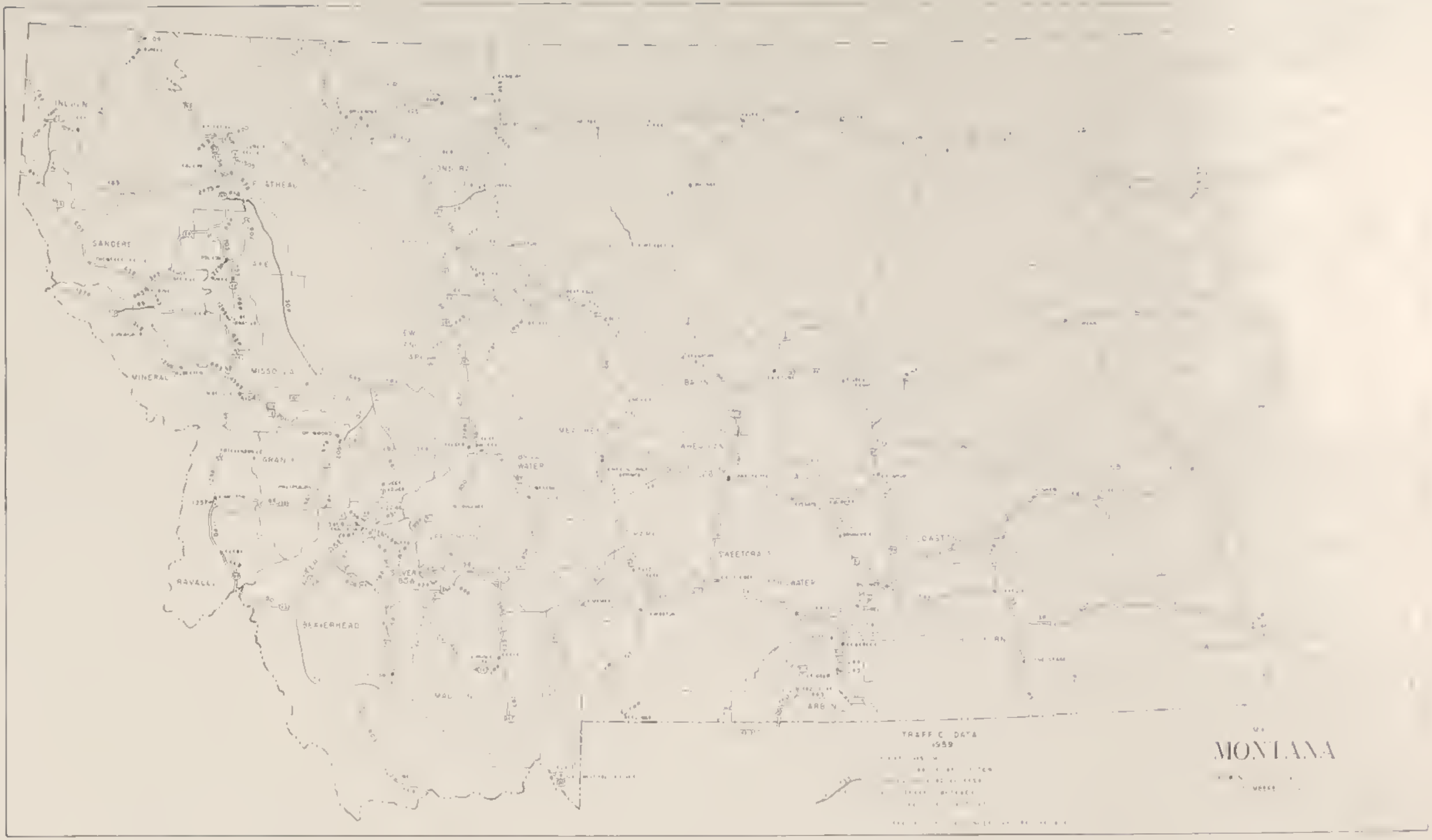
(Based on urban population of 5,000 or more)

URBAN CITY	FY 1960	FY 1961	URBAN CITY	FY 1960	FY 1961
Anaconda	4.8669	4.4968	Havre	3.4968	3.9889
Billings	15.5732	19.5842	Helena	7.6030	7.5325
Bozeman	4.8976	5.0099	Kalispell	4.2108	3.7419
Butte	18.1231	10.3759	Lewistown	2.8425	2.7565
Glasgow		2.4079	Livingston	3.3226	3.0365
Glendive	2.2721	2.6376	Miles City	3.9972	3.6231
Great Falls	17.5850	20.7076	Missoula	11.2089	10.1007
			TOTAL	100.0000	100.0000

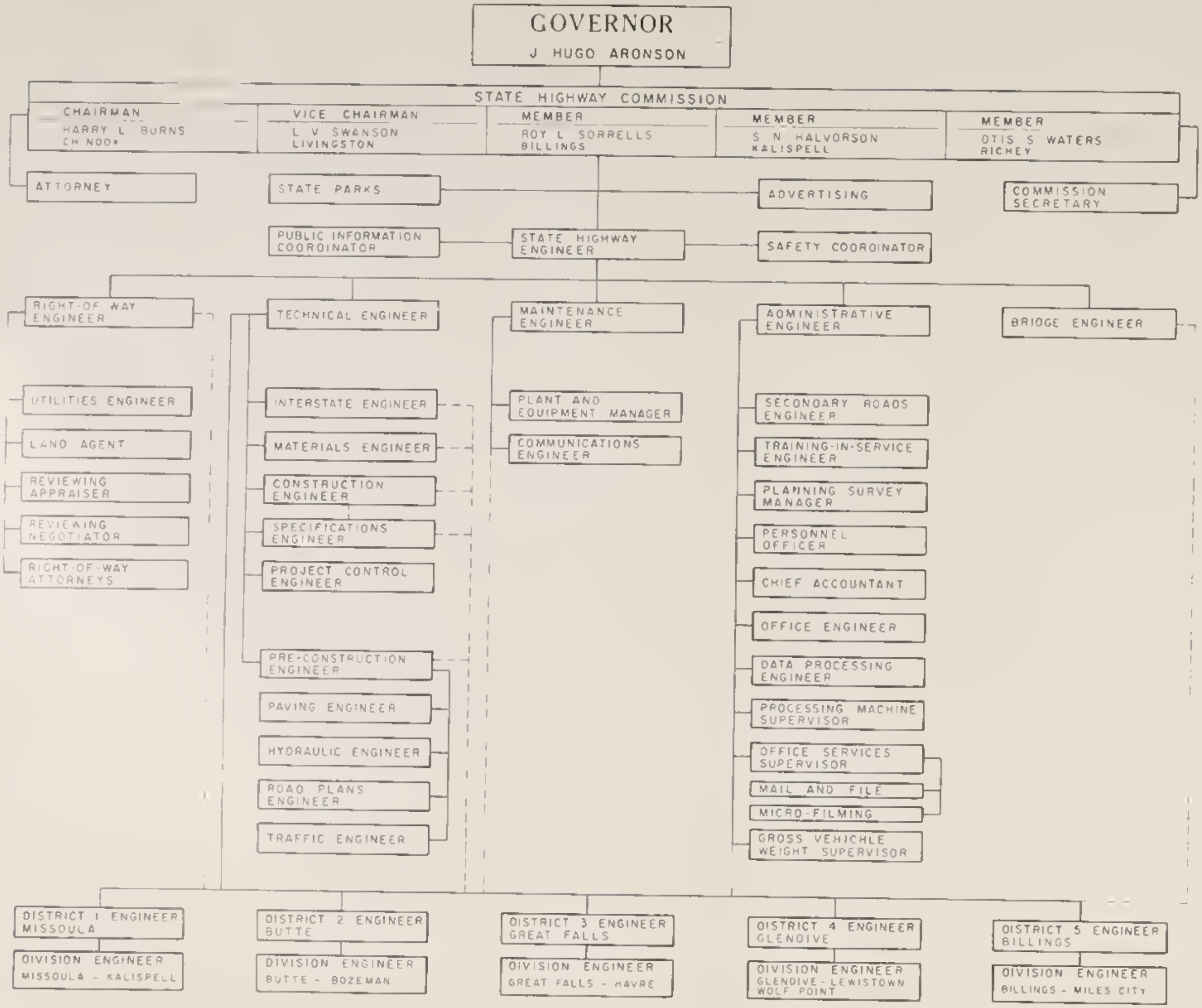
SECONDARY SYSTEM

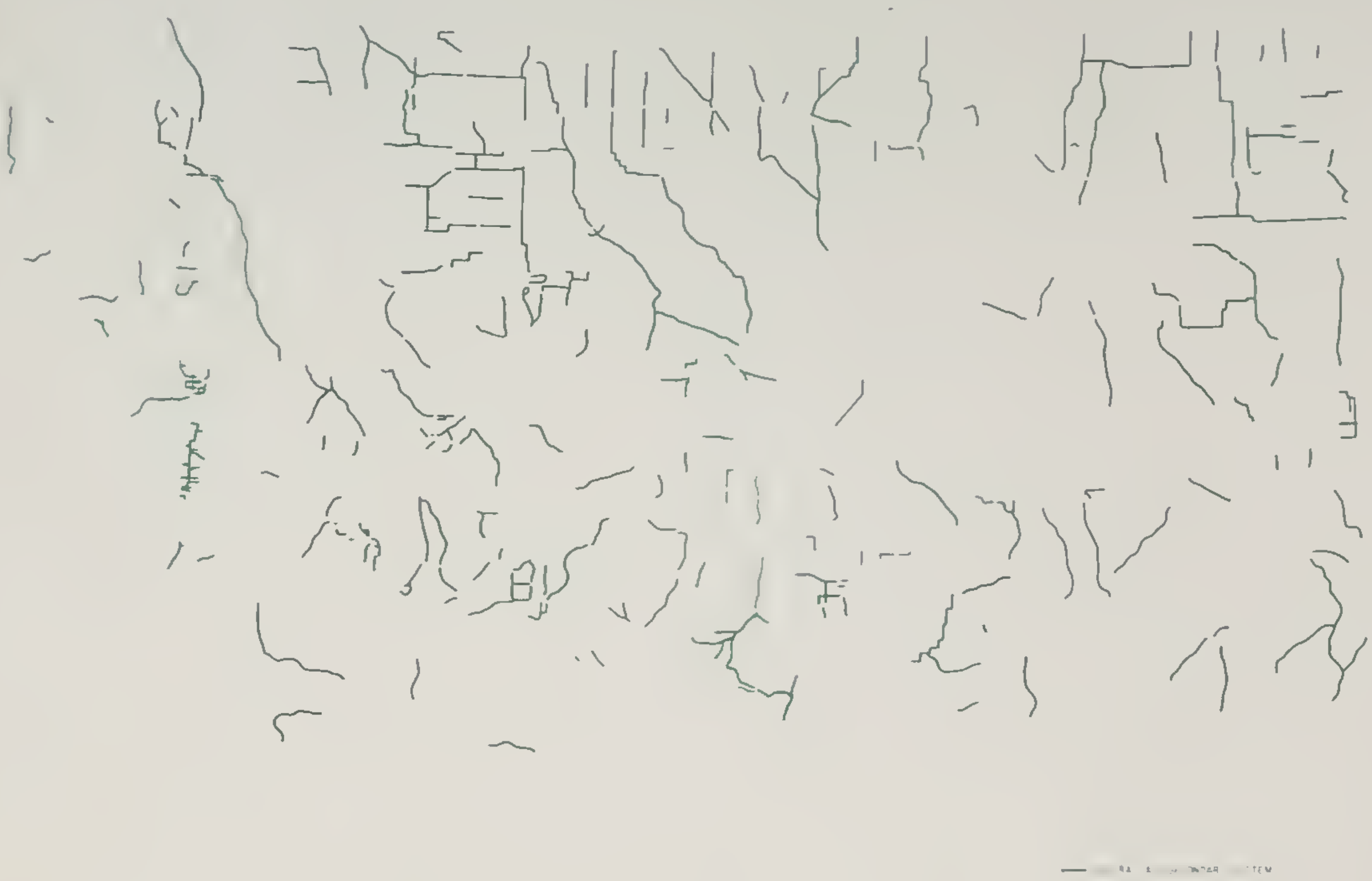
Based on land area, rural road mileage, rural population, and value of rural lands

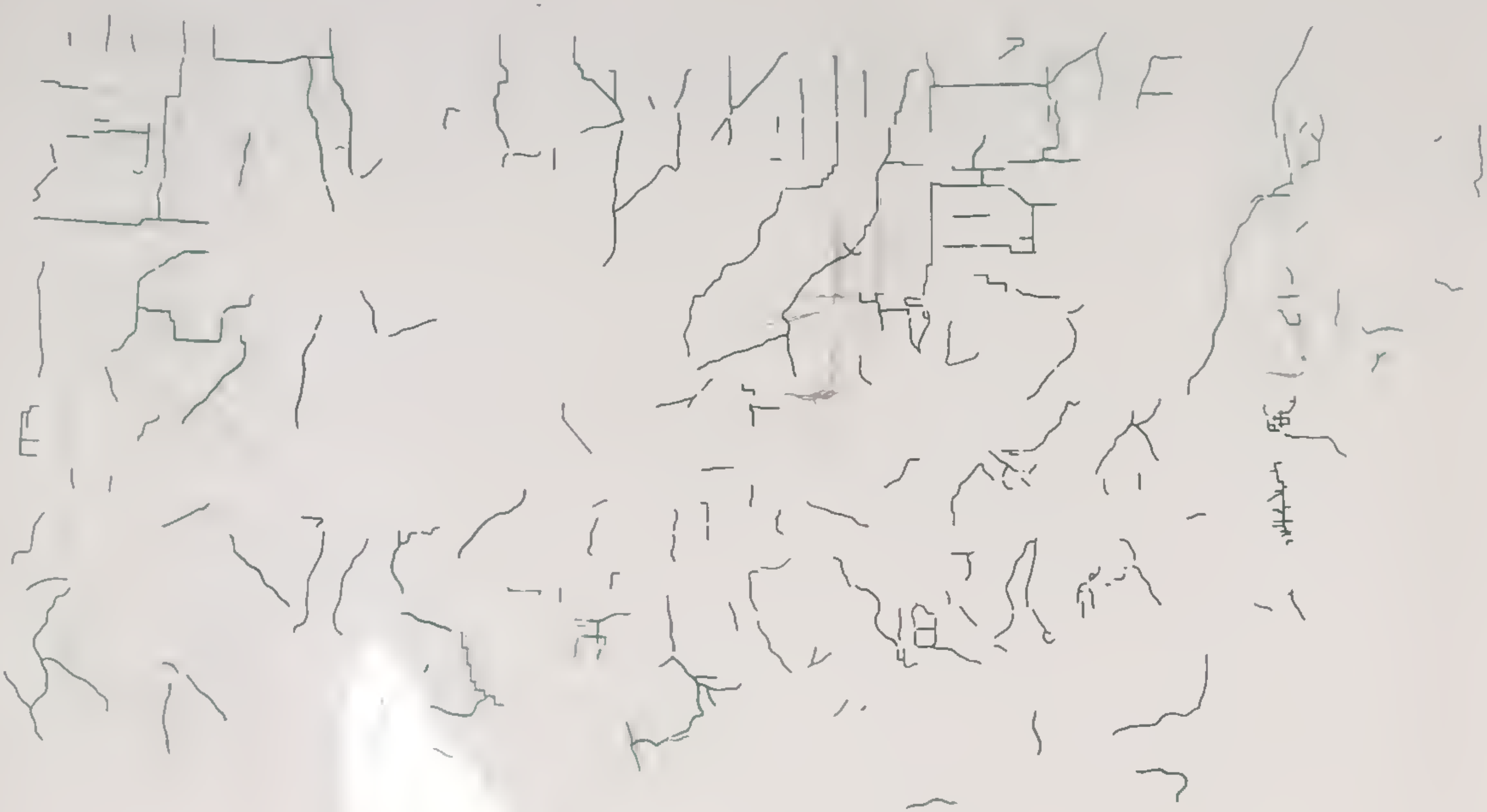
County and Financial District	Percentages for FY 1960	Percentages for FY 1961
Flathead	3.6061	3.4657
Lake	1.9270	1.8115
Lincoln	2.2691	2.2506
Financial District No. 1	7.8022	7.5278
Blaine	2.7162	2.7084
Glacier	1.8051	1.9136
Hill	2.8271	2.8315
Liberty	1.3712	1.3502
Toole	2.0371	2.0716
Financial District No. 2	10.7567	10.8753
Daniels	1.4164	1.4023
Phillips	2.6363	2.6391
Roosevelt	2.0702	2.1054
Sheridan	1.7971	1.8073
Valley	3.2538	2.9672
Financial District No. 3	11.1738	10.9213
Dawson	1.6611	1.6388
McCone	1.8193	1.7496
Prairie	0.9400	0.9272
Richland	1.9245	1.8892
Wibaux	0.7207	0.7052
Financial District No. 4	7.0656	6.9100
Fergus	2.9586	2.9060
Garfield	1.7784	1.7660
Petroleum	0.7432	0.7136
Financial District No. 5	5.4802	5.4156
Cascade	2.9120	3.0448
Chouteau	3.3206	3.3216
Judith Basin	1.5267	1.5089
Pondera	2.4112	2.4850
Teton	2.1517	2.1578
Financial District No. 6	12.3612	12.5181
Broadwater	0.9476	0.9401
Jefferson	0.9934	0.9857
Lewis & Clark	1.8575	1.8440
Financial District No. 7	3.7985	3.7698
Granite	0.8893	0.8767
Mineral	0.6532	0.6459
Missoula	1.9185	2.2510
Powell	1.5074	1.1775
Ravalli	1.8903	1.8362
Sanders	1.7188	1.5782
Financial District No. 8	8.6075	8.4655
Beaverhead	2.4559	2.4454
Deer Lodge	0.8189	0.8140
Madison	1.7650	1.7500
Silver Bow	0.8436	1.5430
Financial District No. 9	5.8834	6.5524
Gallatin	2.3585	2.4224
Meagher	1.1285	1.1292
Park	1.3882	1.3867
Sweet Grass	1.1137	1.1012
Wheatland	0.9144	0.9088
Financial District No. 10	6.9033	6.9483
Big Horn	2.5559	2.5081
Carbon	1.8594	1.7616
Golden Valley	0.7146	0.6864
Musselshell	1.2763	1.2182
Stillwater	1.4102	1.4606
Treasure	0.5732	0.5511
Yellowstone	3.6653	3.6105
Financial District No. 11	12.0849	11.7968
Carter	1.4159	1.4406
Custer	1.6559	1.6457
Fallon	1.1520	1.1689
Powder River	1.5213	1.4959
Rosebud	2.3076	2.3180
Financial District No. 12	8.0827	8.0691
State Total	100.0000	100.0000

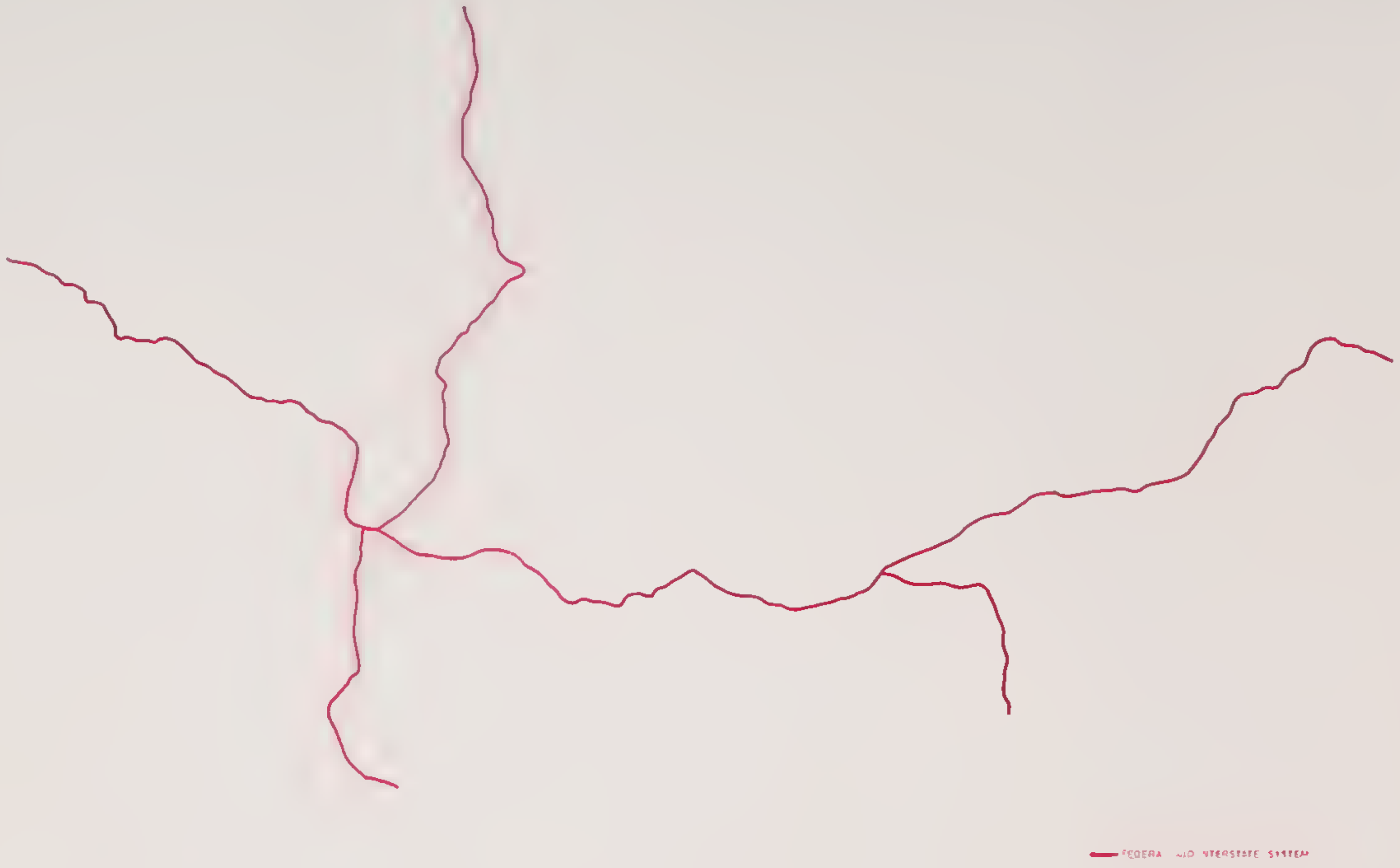

FLATHEAD
SANDERS
MINERAL
MISSOULA
GRANITE
RAVALLI
BEAVERHEAD
SILVER BOW
SWEETGRASS
STILLWATER
CARBON
BROADWATER
TRAFFIC DATA
1959
MONTANA

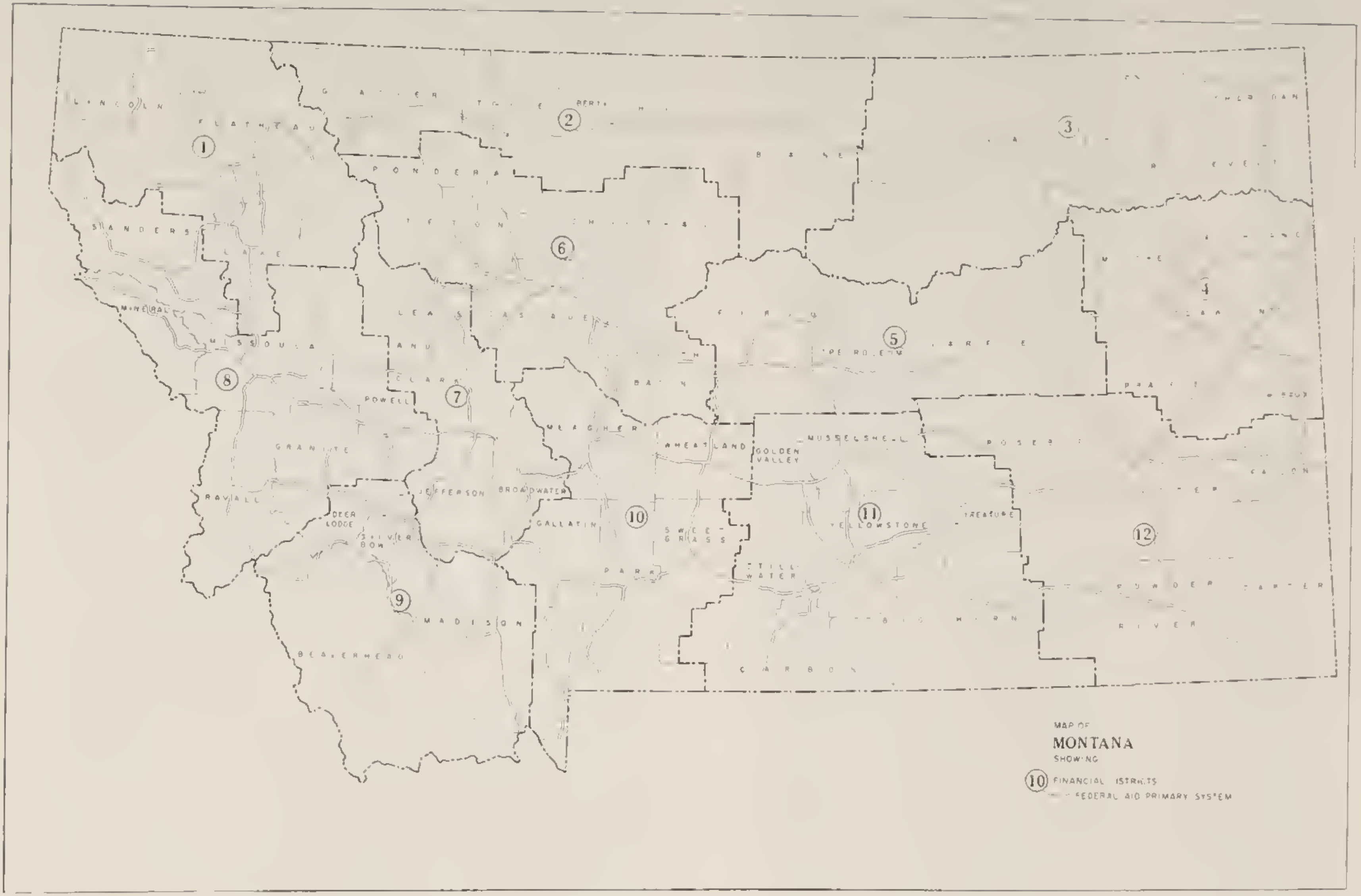
ORGANIZATION CHART
STATE HIGHWAY COMMISSION


GOVERNOR
J HUGO ARONSON
STATE HIGHWAY COMMISSION
CHAIRMAN HARRY L BURNS CHINOOK
VICE CHAIRMAN L V SWANSON LIVINGSTON
MEMBER ROY L SORRELLS BILLINGS
MEMBER S N HALVORSON KALISPELL
MEMBER OTIS S WATERS RICHEY
ATTORNEY
STATE PARKS
ADVERTISING
COMMISSION SECRETARY
PUBLIC INFORMATION COORDINATOR
STATE HIGHWAY ENGINEER
SAFETY COORDINATOR
RIGHT-OF-WAY ENGINEER
TECHNICAL ENGINEER
MAINTENANCE ENGINEER
ADMINISTRATIVE ENGINEER
BRIDGE ENGINEER
UTILITIES ENGINEER
LAND AGENT
REVIEWING APPRAISER
REVIEWING NEGOTIATOR
RIGHT-OF-WAY ATTORNEYS
INTERSTATE ENGINEER
MATERIALS ENGINEER
CONSTRUCTION ENGINEER
SPECIFICATIONS ENGINEER
PROJECT CONTROL ENGINEER
PRE-CONSTRUCTION ENGINEER
PAVING ENGINEER
HYDRAULIC ENGINEER
ROAD PLANS ENGINEER
TRAFFIC ENGINEER
PLANT AND EQUIPMENT MANAGER
COMMUNICATIONS ENGINEER
SECONDARY ROADS ENGINEER
TRAINING-IN-SERVICE ENGINEER
PLANNING SURVEY MANAGER
PERSONNEL OFFICER
CHIEF ACCOUNTANT
OFFICE ENGINEER
DATA PROCESSING ENGINEER
PROCESSING MACHINE SUPERVISOR
OFFICE SERVICES SUPERVISOR
MAIL AND FILE
MICRO-FILMING
GROSS VEHICHLE WEIGHT SUPERVISOR
DISTRICT 1 ENGINEER MISSOULA
DIVISION ENGINEER MISSOULA - KALISPELL
DISTRICT 2 ENGINEER BUTTE
DIVISION ENGINEER BUTTE - BOZEMAN
DISTRICT 3 ENGINEER GREAT FALLS
DIVISION ENGINEER GREAT FALLS - HAVRE
DISTRICT 4 ENGINEER GLENDIVE
DIVISION ENGINEER GLENDIVE - LEWISTOWN WOLF POINT
DISTRICT 5 ENGINEER BILLINGS
DIVISION ENGINEER BILLINGS - MILES CITY



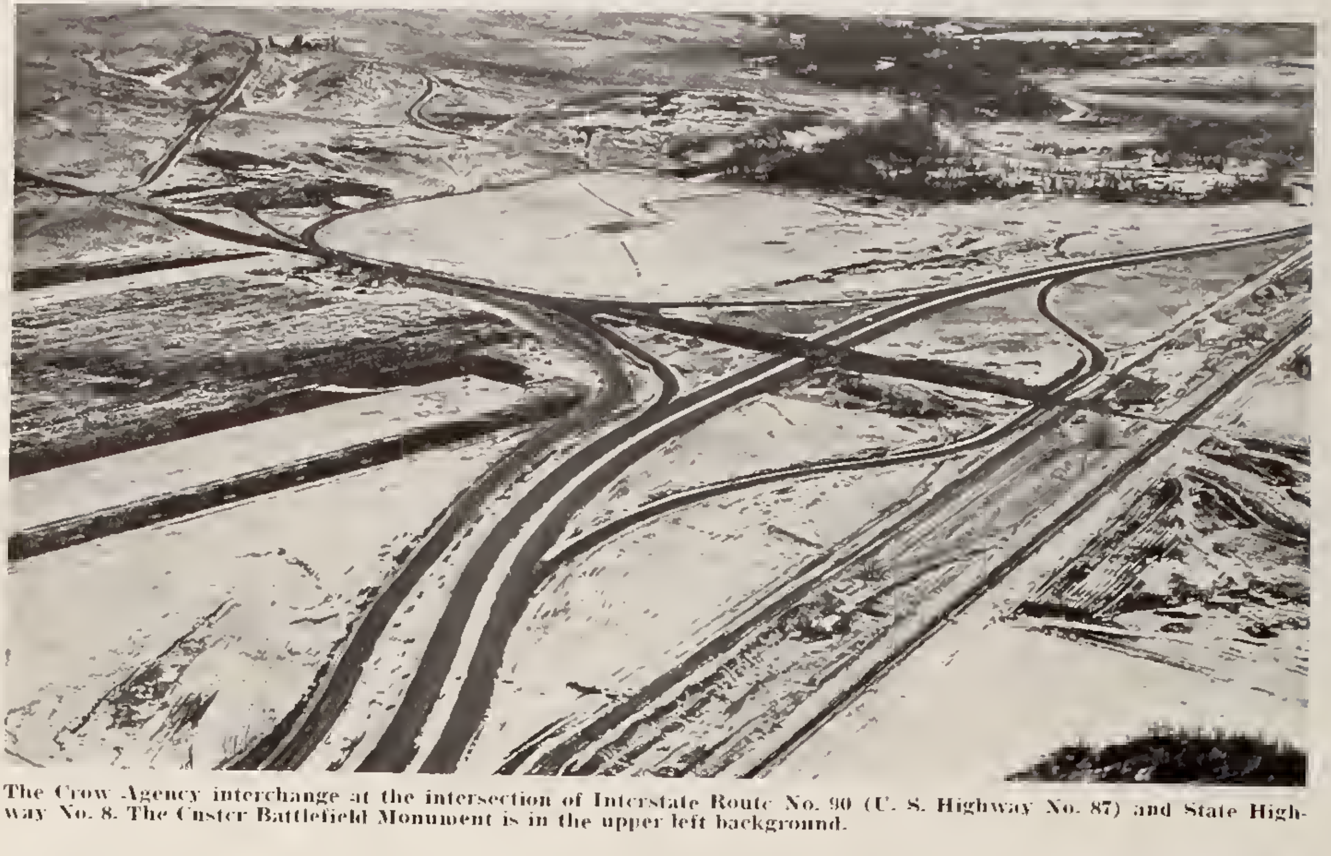



FEDERAL AID INTERSTATE SYSTEM



MAP OF
MONTANA
SHOWING
⑩ FINANCIAL DISTRICTS
FEDERAL AID PRIMARY SYSTEM

The old and new bridges across the Yellowstone River at Glendive.



The Crow Agency interchange at the intersection of Interstate Route No. 90 (U. S. Highway No. 87) and State Highway No. 8. The Custer Battlefield Monument is in the upper left background.

HIGHWAY CONSTRUCTION REPORT

The Construction Engineer and the Bridge Engineer are charged with the general overall responsibility for the construction of highway projects and bridges. Their contact with construction forces is through the District Engineers.

The Construction Engineer is called upon for advice during various phases of project planning prior to construction. He and his staff review the proposed work for each and every contract prior to letting. The Bridge Engineer and his staff prepare and check all plans and specifications for bridge and structure projects and are called upon for advice during the various phases of planning.

The progress estimates for payment of contract work are processed and reviewed by these offices. They also review all sub-contracts and modifications of contracts after execution They must review and weigh all circumstances and conditions concerned with overruns of contract time and submit their recommendations to the State Highway Commission as pertains to possible liquidated damages They make frequent field inspection trips to obtain assurance that projects are being built in accordance with plans and specifications and to advise District Engineers relative to their problems. They and their staffs evaluate and recommend new materials, equipment and procedures.

All contracts let in recent years, wherein Federal-aid is involved, include a provision stipulating job classification and minimum wages for all of a contractor's employees. The Construction Engineer is charged with the enforcement of this provision.

The Construction Engineer and Bridge Engineer are Chairman and Vice-Chairman, respectively, of a Prequalification Board established many years ago to review, consider and rate all prospective bidders as to their ability to bid upon and accept project awards. Other members are the State Highway Engineer, the Office Engineer, the Specifications Engineer and the Chief Accountant.

The staffs of these two Engineers, Construction and Bridge, acting through delegated field forces, have completed a tremendous construction program during this biennium—probably the greatest in the history of the Commission. A good, substantial start has been made in Montana's portion of the National System of Interstate and Defense highways.

One of the outstanding achievements, and one of vital interest to people of central and north-central Montana, was the construction of the Fred Robinson Bridge, and approaches thereto, across the Missouri River north of Roy. Special Federal land funds amounting to $600,000 helped finance about eleven miles of this road. Another job appreciated by many people was the temporary surfacing which provided a reasonably all-weather highway between Great Falls and Missoula, via Lincoln and Ovando.

The U. S. Bureau of Public Roads is responsible for the construction of those portions of the State Highway system which lie within National Forests See the tabulation on Page 26. That agency has constructed a few miles of very fine highway to the full extent of available funds. These roads, aside from right-of-way, are constructed entirely with Federal funds. Maintenance is done by the State.

Some sections of highway are constructed on Indian Reservations. Some such cases are constructed with almost 100 percent Federal-aid One fine example, built and paved during this biennium, lies between Harlem and Landusky.

The Legislative Assembly of 1955 empowered the State Highway Commission to allocate, from available State construction moneys, a sum not to exceed $1,000,000 in any fiscal year for the construction of any major bridge on the primary or secondary system if the lack of regularly apportioned funds would prohibit or seriously delay such necessary construction. During the biennium, one major bridge was let to contract and completed under the provisions of that statute This bridge crosses the Clark Fork River about three miles west of Thompson Falls, in Sanders County, and is commonly known as the Birdland Bridge Bridges previously built under Chapter 106, Session Laws of 1955, and amendments, include the following:

F 157(14) Miles City—Contract awarded Oct., 1955—Completed Dec., 1957
F-FG 384(3) Forsyth—Contract awarded Mar., 1956—Completed June, 1958
F 213(3) Glendive—Contract awarded Sept., 1956—Completed Aug., 1958
S 302(13) Terry—Contract awarded June, 1957—Completed May, 1959
F 118(7) Libby—Contract awarded Dec., 1957—Completed Dec., 1958

The Highway Department had to construct a new airport to replace the old Superior Airport. This is included in F. A. Project I 90-1(6)43, U1, as listed in the tabulation of projects. It is Number 14, in Column 1, Interstate. This was a right-of-way consideration and the State received Federal-aid at about 92 percent.

The Bureau of Public Roads also participates in the cost of installing at-grade railroad crossing signs and signals. Four of these were installed during the biennium. They are located:

Between Frenchtown and Missoula	Near Brockton on Secondary
Between Superior and Lookout Pass	In Musselshell on Secondary

The total cost of the four installations was $28,628; the railroads paid 10 percent of the cost, or $2,863, and the Federal-aid was about $14,400.

Some quite interesting statistics can be compiled by a study of the tables shown on Pages 21, 22, 23, 24, 25 and 26.

The total value of work underway during the biennium consisted of (a) contracts let prior to July 1, 1958 but not finished before that date (b) contracts let during the biennium and started and/or completed prior to June 30, 1960. A few projects were let to contract during the last few days of the biennium but work was not started by June 30, 1960.

The dollar value of contracts let prior to July 1, 1958 and which were worked on during the biennium was as follows:

Interstate System	$ 8,339,044	12 projects
Primary System	16,464,260	38 projects
Secondary System	9,134,399	42 projects
Total	$33,937,703	

The dollar value of contracts let during the biennium was as follows:

Interstate System	$25,034,562	40 projects
Primary System	21,083,349	60 projects
Secondary System	16,850,403	86 projects
Total	$62,968,314	

Major items of roadway work let to contract during the biennium is of interest to many people. The following table shows mileage of roadway graded and drained and the mileage of finished surface types, as let but not necessarily completed. Most of the grading projects include a surface of either gravel or bituminous-aggregate mixture. There is an overlap of mileage in many cases. The mileage shown for bituminous plant mix and Portland cement pavement has been converted to two-lane length (includes 37.4 miles of four-lane bituminous and 0.8 mile of four-lane concrete). Some of the mileage on Interstate includes Primary connections.

	Grade and Drain	Soil Cement Base	Surface Type				
			Gravel	Bitum. Surf Treatment	Bitum. Road Mix	Bitum. Plant Mix	Portland Cement Concrete
Interstate	85.3					130.6	9.9
Primary	257.9	22.3	22.8	4.5	0.9	313.8	0.2
Secondary	360.7		17.5	49.5	2.2	315.9	

The tabulations of project construction show lengths of major bridges constructed when the project was primarily a bridge or overpass. The following tabulation shows the various types let to contract, the lengths, and the probable cost. Steel and concrete are the predominant materials.

Type of Bridge	Length	Cost
Riveted Plate Girder	7,794 Feet	$4,292,854
Rolled Steel Beam Girder	2,515 Feet	1,150,592
Precast-Prestressed Concrete Girder	8,913 Feet	2,854,046
Poured-in-place Concrete Girder	132 Feet	49,631
Treated Timber Stringer	1,523 Feet	295,737

Minor structures, less than twenty feet in roadway length, built for machinery passes and similar purposes cost a total of approximately $295,700.

The tabulations on Pages 21 to 26, inclusive, list all road and bridge contracts underway, let to contract and/or completed during this biennium. The list does not include some work done, under supervision of the Construction Engineer or the Bridge Engineer, for other agencies such as State Parks, U. S. Army Engineers and the Maintenance Division of the Highway Department There is shown on Page 26, a tabulation of projects constructed by the Bureau of Public Roads; these are included because they are part of the State Highway System.

The columns in the tabulations are numbered and some data therein is abbreviated. Cost data is shown to the nearest dollar. Some of the figures in Column 8 are estimated if it appears that available data is reasonably close to final data; such estimates are followed by the letter "e".

Column 0 shows county, or counties, in which project is constructed.

Column 1 carries an identification number which is used on the map on Page 27 to show the location of the project. Sometimes more than one contract will be shown under one number.

Column 2 shows the various project numbers which are used in all construction and accounting records.

Column 3 gives the length of the project. If it is road work, the length is in miles to three decimal points; if a bridge, the length is in feet to the nearest foot. If bridges are included in roadway work, then their separate length is not shown.

Column 4 shows the type or kind of work let to contract. The work descriptions have been abbreviated as explained below:

GD—Grade and/or Drain
GS—Gravel or Graveled
MB—Major Bridges, Underpasses, Overpasses, etc.
TT—Treated Timber Bridges
SC—Soil Cement or Cement Stabilized Base
FC—Fence
BST—Light Bituminous Treatment
BRM—Bituminous Road Mix
BPM—Bituminous Plant Mix
BSC—Bituminous Seal Coat
PCP—Portland Cement Concrete Pavement
SF—Seed and Fertilizer
SL—Signals and Lights
GR—Guard Rail

Note—All bituminous treatments or mixes are a combination of bitumen (road oil) and gravel or crushed rock "MB", when used alone, means steel and concrete. Major timber bridges are symbolized by "MB(TT)".

Column 5 shows the date of letting—month and year.

Column 6 shows the amount of the contract, as awarded, excepting where a notation is made by "x" where a supplemental agreement was added.

Column 7 shows the date of physical completion of the project. "U-W" indicates "underway or incomplete".

Column 8 shows the final cost of the work let to the contractor for construction. Cost of stock-piled gravel for maintenance, as an example, is not included. The costs shown include work orders and supplemental agreements. "e" indicates an estimated cost.

The map on Page 27 shows the location of all highway construction projects undertaken, and let to contract, during the biennium.

PROJECTS ON INTERSTATE SYSTEM

0 COUNTY	IDENT NUMBER	PROJECT NUMBER	3 PROJECT LENGTH	4 TYPE OF WORK	5 DATE OF LETTING	6 AMOUNT OF CONTRACT	DATE COMPLETED	8 FINAL CONTRACT AMOUNT
Beaverhead	1	I-ING 82-01 (6) U-1	4.997	GD-GS-BST-GR	3-58	918,344	4-60	910,252
Beaverhead	1	I-ING 82-01 (6) U-2	568'	MB	3-58	213,007	7-59	207,347
Beaverhead	2	I 15-1 (7) 01	17.1	Signs	8-58	36,959	9-59	19,114
Beaverhead	2	I-ING 255 (12) U-1	12.08	GD-GS-BST	8-57	1,172,599	11-59	1,229,949
Beaverhead	2	I-ING 255 (12) U-2	399'	MB	8-57	118,617	7-59	149,519
Park	3	I 90-7 (5) 339	11.8	Signs	8-58	13,048	U-W	
Park	3	I 117 (10) U-1	7.756	GD-GS-BPM-MB-FC-GR	3-58	805,257	12-59	826,641
Park	3	I 117 (10) U-2	4.029	GD-GS-BPM-FC-GR	4-58	2,608,840 x	U-W	
Cascade	4	I 15-5 (8) 250	12.5	Signs	8-58	18,811	1-60	22,284
Cascade	4	I 182 (5)	330'	MB	8-57	153,437	9-58	153,135
Cascade	4	I 182 (6)	12.461	GD-GS-BPM-FC	12-57	1,198,101	11-59	1,413,911
Teton	5	IN 211 (12)	13.783	BPM-BSC-GR	4-57	173,984	8-58	167,133
Yellowstone	6	I-ING 90-8 (6) 441	1.283'	MB-GD	4-58	412,097	8-59	456,701
Yellowstone	6	I 90-8 (8) 438 U-1	6.423	MB-GD-GS-BPM-BSC-GR	10-59	1,556,610	U-W	
Yellowstone	6	I 90-8 (8) 438 U-2	6.123	FC	10-59	33,140	U-W	
Big Horn	7	IN 90-9 (5) 498 U-1	11.594	GD-GS-BPM-BSC-GR-FC	9-58	1,685,369	U-W	
Big Horn	7	IN 90-9 (7) 508 U-1						
Big Horn	7	IN 90-9 (5) 498 U-2	793'	MB	5-58	347,819	8-59	339,748
Big Horn	7	IN 90-9 (7) 508 U-2						
Big Horn	7	I 90-9 (10) 498 U-1	18.151	Signs	10-59	52,848	U-W	
Big Horn	7	I 90-9 (11) 498	11.594	SF	2-60	25,237	U-W	
Big Horn	8	IN 90-9 (7) 508	---	Repair Bridge	6-60	13,500	6-60	13,500
Big Horn	9	IN 90-9 (6) 510	6.557	BPM-BSC	5-58	156,942	9-58	152,992
Silver Bow	10	I-ING 15-2 (8) 118	1.245	GD-GS-BPM-MB-BSC-GR-FC	4-59	1,360,741	U-W	
Dawson	11	I 94-6 (2) 216	4.184	GD-GS-BPM-BSC-GR-FC	4-59	762,435	U-W	
L & C	12	I-IG-ING 15-4 (4) 184 U-1	1,607'	MB	6-59	569,390	U-W	
Cascade	13	I 15-5 (9) 275 U-1	8.337	GD-GS-BPM-BSC-GR	7-59	2,629,105	U-W	
Cascade	13	I 15-5 (9) 275 U-2	361'	MB	7-59	231,508	U-W	
Cascade	13	I 15-5 (9) 275 U-3	8.337	FC	7-59	30,093	U-W	
Mineral	14	I 90-1 (5) 46	1.422'	MB	9-58	846,797	U-W	
Mineral	14	I 90-1 (6) 13 U-1	6.686	GD-GS-BPM-GR (1)	1-60	1,096,572	U-W	
Mineral	14	I 90-1 (6) 13 U-2	321'	MB	7-59	144,103	U-W	
Mineral	14	I 90-1 (6) 43 U-3	6.686	FC	1-60	67,742	U-W	
Mineral	25	I 90-1 (4) 60 U-1	4.991	GD-GS-BPM-BSC-GR-FC	7-58	1,042,632	U-W	
Mineral	25	I 90-1 (4) 60 U-2	273'	MB	7-58	135,668	8-59	133,010
Mineral	14	I 90-1 (7) 60 U-1	9.623	Signs	10-59	12,658	U-W	
Mineral	16	I 90-3 (5) 157 U-1	1.991					
Mineral	14	I 90-1 (11) 60	9.623	SF	2-60	19,559	U-W	
Mineral	16	I 90-3 (9) 157	4.991					
Toole	15	I-IG 15-8 (6) 379 U-1	4.783	GD-GS-BPM-MB-BSC-GR	10-59	730,829	U-W	
Toole	15	S 366 (5)						
Toole	15	I-IG 15-8 (6) 379 U-2	4.235	FC	10-59	38,746	U-W	
Powell	16	I 90-3 (2) 179	0.806	FC	6-60	1,224	U-W	
Gran.-Pow.	16	I 90-3 (3) 157 U-1	9.623	GD-GS-BPM-BSC-GR-FC	7-58	2,456,635	U-W	
Gran.-Pow.	16	I 90-3 (3) 157 U-2	335'	MB	7-58	291,720	10-59	318,571
Park	17	I 90-7 (4) 330	730'	MB	11-59	642,857	U-W	
Custer	18	I 94-4 (3) 134	711'	MB	1-60	324,467	U-W	
Custer	18	I 94-4 (5) 127 U-1	9.120	GD-GS-PCP-BPM-BSC-MB-GR	1-60	2,657,498	U-W	
Custer	18	F 135 (17)						
Custer	18	I 94-4 (5) 127 U-2	8.555	FC	1-60	35,986	U-W	
Beaverhead	19	I-IG 15-1 (9) 0	17.079	BPM-BSC	2-60	404,014	U-W	
Silver Bow	20	I 15-2 (9) 128	6,775'	MB	2-60	334,508	U-W	
Powell	21	I 90-3 (8) 180 U-1	9.734	GD-GS-BPM-BSC-GR	5-60	1,565,955	U-W	
Powell	21	F 184 (14)						
Powell	21	I 90-3 (8) 180 U-2	1.011'	MB	5-60	351,363	U-W	
Powell	21	I 90-3 (8) 180 U-3	8.603	FC	5-60	54,373	U-W	
Yellowstone	22	I 90-8 (10) 451	938'	MB	5-60	808,984	U-W	
Toole	23	I-IG-ING 15-8 (3) 351	5.623	MB-GD-GS-BPM-BSC-GR-FC	9-58	1,793,115	U-W	
Toole	23	PS-I 15-8 (3) 355	---	Weigh Station	6-60	17,375	U-W	

Note:

(1) Superior Airport reconstruction - replacement - $16,375 contract cost only.

Note.

x - (No. 3) The value in Col. 6 includes a Supplemental Agreement for $1,071,503

Note

Col. 8 does not reflect costs of gravel stockpiles and other items taken over by the Maintenance Division.

PROJECTS ON PRIMARY SYSTEM

0 COUNTY	IDENT NUMBER	PROJECT NUMBER	3 PROJECT LENGTH	4 TYPE OF WORK	5 DATE OF LETTING	6 AMOUNT OF CONTRACT	7 DATE COMPLETED	8 FINAL CONTRACT AMOUNT
Powell	101	F-FG 249 (7)	162'	MB	12-57	172,714	12-58	170,575
Powell	101	F-FG 249 (8)	3.5	FC	4-60	1,622	5-60	155
Powell	101	F-FG 249 (11)	2.613	GD-GS-BST-GR	9-58	450,982	9-59	385,893
Powell	101	F 249 (13)	1.233	GD-GS	3-60	165,322	U-W	
Missoula	102	I-IG 105 (2)	552'	MB	4-57	683,472	8-58	675,362
Missoula	102	I-IG 105 (3) U-2	0.832	GD-GS-BPM-BSC-SL-GR	7-58	308,907	7-59	311,925
Missoula	102	I 105 (5)	-----	Signs	6-59	18,424	12-59	18,049
Flathead	103	DF 98 (9)	10.962	GS-BPM-BSC	6-58	314,137	9-59	308,701
Lincoln	104	F 118 (7)	0.631	GD-GS-BST-MB	12-57	687,696	12-59	679,200
Lake	105	DF 191 (10)	7.480	BPM-BSC-GR	5-58	134,441	9-58	131,430
Deer Lodge	106	DF 164 (11)	11.995	BPM-BSC-GR	6-58	301,568	9-59	303,358
Meagher	107	F 8 (10)	7.372	BPM-BSC	7-57	165,148	7-58	161,708
Gallatin	108	F 76 (4) U-1	6.240	GD-GS-BST	12-57	299,240	9-58	290,275
Gallatin	108	F 76 (4) U-2	260'	MB	12-56	145,225	7-58	144,05[illegible]
Gallatin	108	F 76 (5) U	4.997	GD-GS-BST	9-56	921,751	9-58	906,006
Park	109	F 217 (9) I-1	11.529	GD-GS	5-57	420,200	11-58	469,729
Park	109	F 217 (9) I-2	450'	MB	10-56	275,873	11-58	277,964
Cascade	110	FG 224 (5)	8.195	GD-PCP-MB	9-57	617,371	8-59	652,845
L. & C.	111	F 238 (7)	10.454	GD-GS-BPM-BSC	5-58	1,058,378	8-59	1,043,174
Hill	112	F 132 (6) U-1	3.737	GD-GS-BST	8-57	160,033	7-58	164,691
Glacier	113	F 210 (2)	6.012	GD-GS-BST	8-56	686,563	9-58	747,208
Dawson	114	I 121 (3)	2.670	GD-GS-BPM-BSC-SL-GR	9-58	621,693	6-60	685,517
Dawson	114	F 130 (15) U-1						
Dawson	114	F 130 (15) U-2	100'	MB	4-58	131,107	8-59	131,908
Dawson	115	F 213 (3)	1,318'	MB	9-56	923,481	8-58	909,853
Dawson	116	F 391 (11)	9.035	GD-SC-BST	4-58	653,237	5-59	645,927
Dawson	116	F 391 (12)	9.035	BPM-BSC	5-59	130,144	9-59	122,189
Roosevelt	117	F 84 (25) U-1	9.030	GD-GS-BPM-BSC	3-58	483,939	9-58	467,104
Roosevelt	117	F 84 (25) U-2	120'	MB	3-58	18,223	8-58	17,549
Roosevelt	118	F 193 (9)	7.842	GD-GS-BPM-BSC	6-58	430,359	8-59	412,167
Roosevelt	119	F 273 (10)						
Valley	120	F 232 (2)	8.058	GD-GS-BST-TT	12-56	325,209	7-58	320,861
Roosevelt	121	F 240 (8)	2.361	GD-GS-BPM	9-57	292,156	10-58	310,504
Roosevelt	121	F 240 (9)						
Roosevelt	122	F-FG 273 (9)	8.820	GD-GS-BST-MB	9-56	335,469	8-58	334,543
Phillips	123	F 333 (16) U-2	2.517	GD	1-58	187,470	1-59	517,085
Phillips	124	DF 333 (19)	14.943	GS-BPM-BSC	6-58	392,756	8-59	401,273
Fergus	125	F 103 (9)	9.962	GD-GS-BST	5-57	148,508	7-58	140,084
Garfield	126	F 157 (13)	9.090	GD-GS-BST-GR	7-57	269,589	8-58	264,621
Ferg.-Phil.	127	F-FLH 333 (13)	608'	MB	10-56	718,051	3-59	706,641
Fergus	128	F 333 (15) U-3	4.517	GD-GS	4-58	151,100	5-59	517,281
Fergus	129	DF 333 (20)	12.936	GD	6-58	314,026	5-59	294,704
Fergus	129	DF 333 (21)	12.936	SC-BPM-BSC	11-58	117,646	9-59	154,340
Fergus	129	DF 333 (22)						
Yellowstone	130	F-FG 228 (14)	1.713'	MB	10-57	1,042,704	5-60	1,022,223
Yellowstone	130	F 228 (18)	8.258	GD-GS-BPM	10-59	35,964	6-60	31,654
G. Valley	131	DF 249 (9)	0.657	GS-BST-MD	6-58	113,435	10-59	107,166
Fallon	132	F 2 (14)	10.264	GD-GS-BST	3-57	432,528	7-58	429,328
Fallon	133	F 86 (16)	12.247	GD-GS-BST-TT-GR	6-57	190,580	9-58	186,869
P. River	134	F 334 (15) U-1	10.980	GD-GS-BPM-SC	9-57	557,393	8-58	575,118
P. River	134	F 198 (4)	9.417	GD-SC-BPM-BSC	7-58	565,294	U-W	
P. River	134	DF 334 (15) I-2						
P. River	134	DF 334 (16)						
Rosebud	135	DF-DFG 384 (4)	1.244	GD-GS-BST-GR	5-58	140,780	6-59	140,621
Cascade	137	DF 176 (6)	5.720	GD-GS-BPM-BSC	7-58	439,966	8-59	512,624
Toole	140	DF 62 (10)	20.146	GD-GS-BPM-BSC	7-58	415,834	6-59	448,214
Toole	140	DF 225 (4)						
Carbon	141	DF 250 (11)	5.773	GD-GS-BPM-BSC	7-58	144,509	7-59	438,825
Flathead	142	F 270 (8)	8.266	GD	7-58	293,699	5-59	292,890
Flathead	142	F 100 (8)	14.635	GD-GS-BPM-BSC	3-59	668,851	U-W	
Flathead	142	F 270 (9)						
Flathead	142	F 270 (10)						
Park	143	F 217 (10)	9.700	GD-GS	8-58	507,106	9-59	608,738
Beav.& Mad.	144	DF 387 (6)	10.449	GS-BPM-BSC-GR	8-58	138,701	9-59	135,304
Cascade	145	F 235 (26) U-1	5.283	GD-GS-BPM-BSC	9-58	740,564	U-W	
Cascade	145	F 235 (26) U-2	589'	MB	9-58	336,281	10-59	323,925
Dawson	146	DF 391 (9) U-1	9.669	GD-GS-BPM-BSC-GR	9-58	572,122	10-59	573,316
Dawson	146	DF 391 (10) U-1						
Dawson	146	DF 391 (9) U-2	233'	MB (TT)	9-58	49,076	6-59	18,816
Dawson	146	DF 391 (10) U-2						
Sanders	147	FHP 6 D5	2.000	FC	1-60	2,219	6-60	3,490

PROJECTS ON PRIMARY SYSTEM

0	1	2	3	4	5	6	7	8
COUNTY	IDENT NUMBER	PROJECT NUMBER	PROJECT LENGTH	TYPE OF WORK x	DATE OF LETTING	AMOUNT OF CONTRACT	DATE COMPLETED	FINAL CONTRACT AMOUNT
Sanders	147	F-F 90-4 (4) FU	949'	MB	11-58	554,932	U-W	
D.L., B., SB*	148	F 43 (14) U-1	560'	MB	7-59	226,505	U-W	
D.L., B., SB*	148	F 43 (14) U-2	1.895	GD-GS-BST	2-60	137,267	U-W	
Roosevelt	149	F 84 (27)	14.596	GD-GS-BPM-BSC	2-60	758,201	U-W	
Roosevelt	149	F 84 (28)						
Roosevelt	149	F-FG 273 (11)						
Gar.-McC.	150	F 315 (13) U-1	8.298	GD	2-60	254,300	U-W	
McCone	150	F 315 (13) U-2	205'	MB	2-60	74,184	U-W	
Fergus	151	F 333 (23) U-1	11.832	GD-GS	2-60	366,520	U-W	
Fergus	151	F 333 (23) U-2	173'	MB	2-60	53,846	U-W	
McC.-Daw.	152	F 391 (11) U-1	9.100	GD	2-60	271,618	U-W	
McCone	152	F 391 (11) U-2	176'	MB (TT)	2-60	37,693	U-W	
McC.-Daw.	152	F 391 (13)	9.716	GD-GS-BPM-BSC	6-60	351,185	U-W	
McC.-Daw.	152	S 31 (5)						
Cascade	153	U-F-FG 395 (4)	1,126'	MB	2-60	1,139,282	U-W	
Gallatin	154	F 76 (6)	13.120	GD-GS-BPM-BSC	3-60	254,019	U-W	
Gallatin	154	F 203 (7)						
Valley	155	F 189 (4) U-1	8.184	GD-GS-BPM-BSC	4-60	411,081	U-W	
Valley	155	F 232 (3) U-1						
Valley	155	F 189 (4) U-2	205'	MB	4-60	70,745	U-W	
Valley	155	F 232 (3) U-2	25'	TT				
Gallatin	156	FHP 46-A4	3.0	FC	4-60	4,119	U-W	
Fergus	157	U 103 (7) U-2	34'	MB	5-60	30,190	U-W	
Carter	158	F 262 (12)	11.000	GS-BPM-BSC	5-60	265,926	U-W	
D. Lodge	159	F 68 (9)	6.089	GD-GS-BPM-BSC	6-60	800,520	U-W	
Cascade	160	F 149 (12)	0.121	BPM-SN-GR	6-60	19,799	U-W	
Glacier	161	F 208 (3)	0.866	GD-GS-BPM-MB-BSC	6-60	136,557	U-W	
Powell	162	F 237 (16)	29.812	RS-GS-BPM-BSC	6-60	984,258	U-W	
Powell	162	F 267 (11)						
Fergus	163	F 333 (15) U-4		Core Drilling	1-59	6,110	3-59	6,310
Glacier	165	F 190 (3)	7.117	GD-GS-BPM-BSC	3-59	499,697	6-60	476,557 e
Granite	166	F 78 (7)	9.702	GD-GS-BPM-BSC	4-59	961,524	U-W	
Roosevelt	167	F 84 (26)	9.846	GD-GS-BPM-BSC	4-59	496,894	U-W	
Lake	168	F 63 (7)	16.719	GD-GS-BPM-BSC-GR-SN	5-59	605,418	U-W	
Lake	168	F 192 (8)						
Lake	169	F 194 (4)						
Lake	169	F 197 (6)						
Ferg.-Phil.	170	F 333 (24)	19.875	GS-BST-BSC	5-59	762,810	U-W	
Hill	171	FG 95 (11) U-1	7.142	GD-GS-BPM-BSC-GR	6-59	513,201	U-W	
Hill	171	FG 95 (11) U-2	312'	MB	11-58	127,385	10-59	128,142
Hill	172	F 132 (7)	12.695	GD-GS-BPM-BSC	6-59	835,350	U-W	
L. & C.	173	F 267 (10)	16.540	GS-BPM-BSC	6-59	275,217	U-W	
Roosevelt	174	F 84 (24)	2.372	FC	9-59	2,186	10-59	2,186
Flathead	175	U 58 (23)	2.241	GD-GS-BPM-BSC-GR	10-59	363,855	U-W	
Flathead	175	U 257 (14) U-1						
Flathead	175	F 270 (7) U-1						
Sanders	176	DF 87 (11)	9.093	GD-GS-BPM-BSC	9-58	560,333	10-59	448,397
Sanders	176	F 87 (10) U-1						
Sanders	176	F 87 (10) U-2	50'	MB	9-58	26,301	4-59	26,255
Cascade	177	F 224 (8)	-----	Signals & Lights	10-58	10,625	5-59	18,146
D. Lodge	178	F 164 (10)	2.255	GD-GS-BPM-BSC-GR	11-58	132,660	10-59	117,655
D. Lodge	178	DF 164 (12)						

* - Deer Lodge, Beaverhead
Silver Bow

Note - Col. 8 does not reflect costs of gravel stockpiles and other items taken over by the Maintenance Division.

x - No. 108. Col. 6. This amount includes a Supplemental Agreement for $198,411.

e - (Estimated)

PROJECTS ON SECONDARY SYSTEM

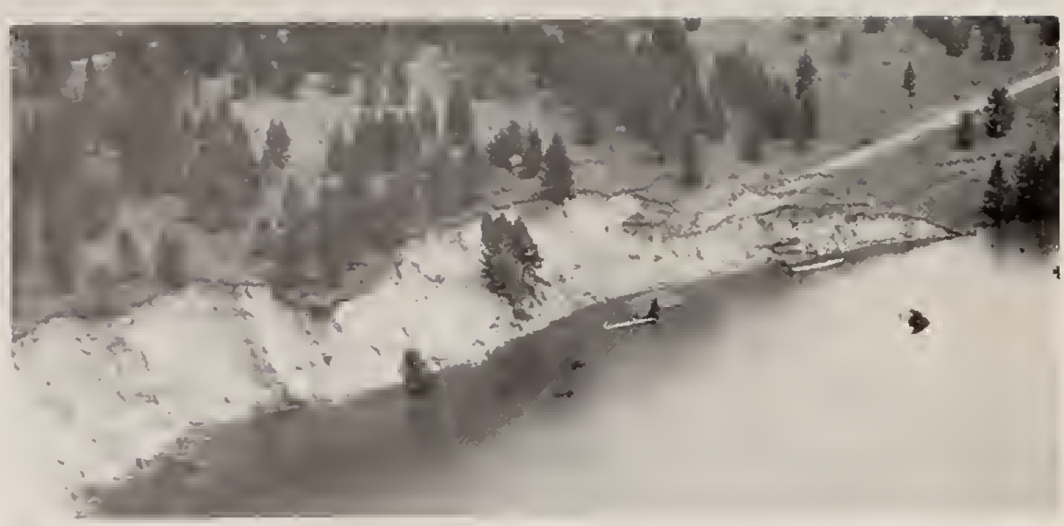
		2	3	4	5	6	7	8
COUNTY	IDENT NUMBER	PROJECT NUMBER	PROJECT LENGTH	TYPE OF WORK	DATE OF LETTING	AMOUNT OF CONTRACT	DATE COMPLETED	FINAL CONTRACT AMOUNT
Ravalli	201	S 226 (1)	2.938	GD-GS-BST	7-57	125,934	7-58	122,828
Ravalli	202	S 268 (1)	15.557	BPM	1-58	134.570	8-58	115,575
Missoula	203	S-SG 272 (1)	1.730	GD-GS-BST-MB-GR	6-58	197,790	7-59	197,580
Flathead	204	S 204 (1)	8.460	GD-GS-BST	9-57	350,403	8-58	350.427
Flathead	204	DS 204 (2)	8.465	BPM-BSC	6-58	95,858	7-59	85.775
Jeff.-L & C	205	S 6 (3)	8.801	GD-GS-BST	3-58	458,842	9-58	527,511
Beaverhead	206	DS 35 (8)	7.500	GD-GS	5-58	97.858	8-58	98,328
S. Bow	207	S-US-USG 213 (3) U-2	7.578	GD-GS-BPM-BSC-GR	3-58	527,230	12-58	514.930
L. & C.	208	S 232 (1)	3.986	GD-GS-BST-GR	3-58	79,395	8-58	73,530
L. & C.	208	S 232 (2)	32'	MB	6-59	13.846	12-59	13.645
Bwater	209	S 253 (1)	3.567	GD-GS-BST	5-58	74,369	9-58	80.435
Park	210	S 106 (5)	10.136	GS-BPM	4-58	146,290	9-58	134.657
Gallatin	211	DS 370 (8)	3.672	GD-GS-BPM-BSC	7-57	267.623	7-58	266.552
Gallatin	211	S 370 (10)						
Cascade	212	DS 91 (4)	3.443	GD-GS-BST	5-58	143,832	6-59	132,179
Pondera	213	S 96 (3)	8.067	GD-GS-BST-TT	8-57	208.005	8-58	254,497
Chouteau	214	DS 115 (1)	9.190	GS-BPM-BSC	6-58	205.803	10-58	210.933
Cascade	215	S 198 (1)	8.870	GD-GS-BST-FC	12-57	292.056	8-58	270,120
L. & C.	216	S 228 (2) U-1	9.777	GD-GS-BST	9-57	270,895	8-58	267.563
L. & C.	217	US 246 (1)	0.674	GD-GS-BPM-BSC	10-57	206.007	8-59	205.055
L. & C.	217	S-US 246 (2)	3.308	GD-GS-BST	12-57	160.921	8-58	165.644
Chouteau	218	S 339 (7)	9.123	GD-GS-BST	12-57	291.471	8-58	289.783
Blaine	219	S 187 (1) U-1	12.665	GD-GS-BST	3-58	437,330	U-W	
Blaine	219	S 187 (1) U-2	175'	MB (TT)	3-58	38.480	9-58	38,223
Blaine	219	S 187 (2) U-1	14.054	GD-GS-BST	9-57	477,952	U-W	
Blaine	219	S 187 (3) U-1	12.624	GD-GS-BST	6-57	517.714	8-59	512.707
Blaine	219	S 187 (6)	39.343	BPM	4-59	410,549	8-59	417,773
Blaine	220	S 217 (1)	1.465	GD-GS-BST-TT	10-57	76,330	7-58	73,470
Hill	221	S 222 (1)	5.766	GD-GS-BST	9-57	149.653	7-58	150.165
Glacier	222	S 249 (2) U-1	6.409	GD-GS-BST	7-57	193,027	7-58	186.771
Toole	223	S 366 (3)	7.309	GD-GS	10-57	173,122	9-58	180.573
Richland	224	S 120 (3)	7.415	GD-GS	5-58	210,442	4-59	202,955
Prairie	225	S 302 (13)	825'	MB	6-57	605.236	5-59	590,875
Prairie	225	DS 302 (14)	2.197	GD-GS-BPM-BSC-GR	7-58	142.771	8-59	135,597
Daniels	226	S 197 (3)	9.106	GD-GS-BST	8-57	272.264	8-58	265,681
Roosevelt	227	S 202 (2)	7.507	GD-GS-BST	8-57	174,511	8-58	172,545
Sheridan	228	S 206 (1) U-1	5.483	GD-GS-BST	10-57	142,018	8-58	146.967
Fergus	229	S-US 19 (2)	1.442	GD-GS-BPM-BSC-MB	7-57	172,792	9-58	180,830
Garfield	230	S 191 (2)	10.161	GD-GS	9-57	255.611	10-58	240.636
Mus.-Petr.	231	DS 356 (6)	11.690	BPM-BSC	5-58	110,664	7-58	101.781
Big Horn	232	S 26 (6) U-1	8.136	GD-GS-BST	6-57	351.061	7-58	353,740
Still.-Yell.	233	DS 176 (4)	7.129	BPM-BSC	6-58	96.079	6-59	94,010
Yellowstone	234	S 192 (2) U-1	120'	MB	3-58	38.076	10-58	37,239
Yellowstone	234	S 192 (2) U-2	6.837	GD-GS-BPM-BSC-TT	9-58	145.915	9-59	469.096
Musselshell	235	S 236 (2)	6.511	GD-GS	10-57	152.824	8-58	165,134
Carb.-Still.	236	S 209 (6)	263'	MB	6-58	77.515	5-59	76,265
Carb.-Still.	236	S 346 (3)						
Carb.-Still.	236	S 209 (8)	7.726	GS-BPM-BSC	6-60	137.855	U-W	
Carb.-Still.	236	S 346 (5)						
Carb.-Still.	236	DS 346 (4)	7.676	GD-GS	9-58	193.980	9-59	203.527
Carb.-Still.	236	DS 289 (7)						
Custer	237	S 45 (7)	130'	MB	10-57	35,538	5-59	35.995
Glacier	238	S 248 (2) U-1	12.143	GD-GS	11-58	287,647	9-59	289,069
Glacier	238	S 248 (2) U-2	188'	MB (TT)	10-58	12.884	6-59	42,841
Blaine	240	S 179 (3)	8.818	GD-GS	4-60	171.337	U-W	
Glacier	241	S 248 (4)	7.669	GD-GS	4-60	282,760	U-W	
Glacier	242	S 266 (1)	9.709	GD-GS-BPM-BSC	4-60	584.286	U-W	
Powell	243	S 291 (3)	3.500	FC	4-60	1,622	5-60	1.443
Powell	243	S 291 (4)	6.346	GD-GS-BPM-BSC	4-60	362,896	U-W	
Big Horn	244	S 322 (5) U-1	183'	MB	4-60	47,224	U-W	
Big Horn	244	S 322 (5) U-2	5.109	GD-GS-BPM-BSC	4-60	317,203	U-W	
Yellowstone	245	S 132 (3)	8.235	GS-BPM-BSC	5-60	208.942	U-W	
Carter	246	S 184 (3)	15.363	GD-GS	5-60	307,075	U-W	
Hill	247	S 242 (1)	1.367	GD-GS-BPM-TT-BSC	5-60	193.898	U-W	
Roosevelt	248	S 402 (2)	-----	Drain	6-60	36,892	U-W	
Musselshell	250	S 236 (6) U-1	193'	MB	7-59	54.574	U-W	
Beaverhead	251	S 35 (9)	5.092	GD-GS	1-60	295,563	U-W	
Fallon	252	S 51 (5)	5.860	GD-GS	1-60	122.256	U-W	
Roosevelt	253	S 200 (4)	2.495	GD-GS-BST-MB	1-60	139,272	U-W	
Ravalli	254	ROW S 227 (1)	2.978	FC	3-60	3.089	U-W	
Ravalli	254	S 227 (3)	3.714	GD-GS-BPM-BSC	1-60	192,851	U-W	

PROJECTS ON SECONDARY SYSTEM

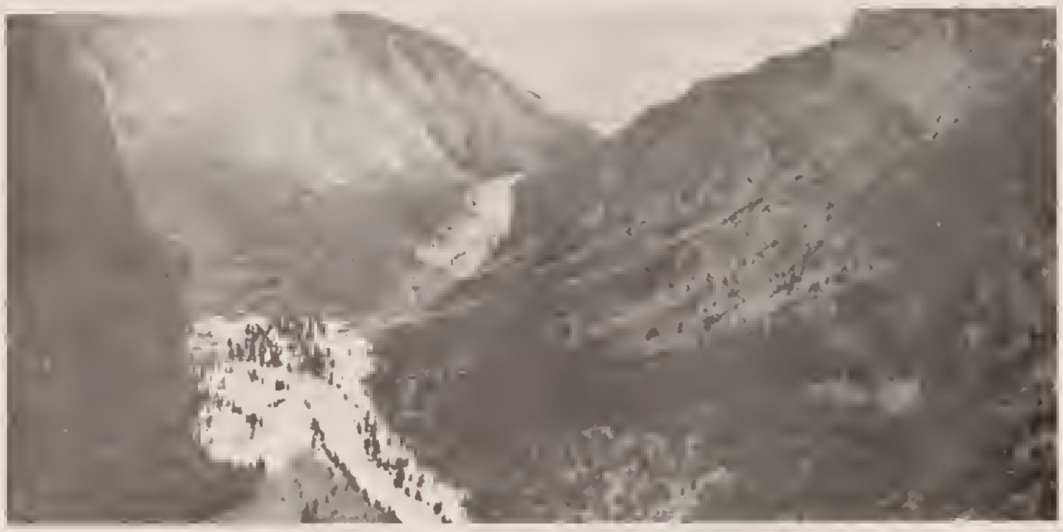
0		2	3	4	5	6	7	8
COUNTY	IDENT NUMBER	PROJECT NUMBER	PROJECT LENGTH	TYPE OF WORK	DATE OF LETTING	AMOUNT OF CONTRACT	DATE COMPLETED	FINAL CONTRACT AMOUNT
Valley	255	S 257 (3)	595'	MB-TT	5-59	298,814	U-W	
Valley	255	S 257 (4)	3.788	GD-GS	1-60	319,271	U-W	
Park	256	S 273 (2)	3.601	MD	1-60	126,485	U-W	
Ferg.-Chot	257	S 307 (8)	4.224	GD-GS-BPM-BSC-TT	1-60	199,662	U-W	
G. Valley	258	S 71 (3)	5.038	GD-GS-TT	2-60	128,620	U-W	
Prairie	259	S 201 (3)	4.863	GD-GS	2-60	106,308	U-W	
Liberty	260	S 303 (3)	11.189	GD	8-58	28,964	5-59	28,738
Liberty	260	S 303 (4)	5.269	GD-GS-BPM-BSC	2-60	214,680	U-W	
Cascade	261	S 312 (2) S 336 (2)	5.625	GD-GS-BPM-BSC	2-60	261,457	U-W	
Cascade	261	S 312 (2) S 336 (2)	3.353	FC	2-60	1,795	U-W	
Toole	262	S 366 (7)	6.273	GD-GS	2-60	156,723	U-W	
Dawson	263	S 32 (10)	9.935	GS-BPM-BSC	3-60	156,105	U-W	
Teton	264	S 90 (2)	7.074	GD-GS-BPM-BSC	3-60	278,057	U-W	
Granite	265	S 127 (3) U-1	6.383	GD-GS	7-58	264,791	8-59	260,465
Granite	265	S 127 (3) U-2	101'	MB	7-58	31,811	7-59	31,357
Hill	266	S 219 (3)	6.006	BPM-BSC	7-58	88,267	7-59	86,699
Hill	267	S 245 (1)	6.728	GD-GS-BST	7-58	138,109	7-59	170,750
L. & C.	268	DS 251 (2)	6.342	GD-GS-BST	7-58	117,395	7-59	156,894
D. Lodge	269	DS 304 (4)	2.840	GS-BPM-BSC	7-58	67,694	7-59	67,062
Jefferson	270	DS 9 (8)	5.614	RS-GS-BST	7-58	88,222	7-59	88,502
P. River	271	DS 54 (5)	9.121	GS-BPM-BSC	7-58	166,873	6-59	180,149
Roosevelt	272	S 98 (2)	12.703	RS-GS-BPM-BSC	7-58	196,779	9-58	189,232
Madison	273	S 167 (5)	4.540	GD-GS-BST	7-58	208,200	7-59	304,287
Toole	274	DS 366 (4)	6.569	GD-GS	7-58	119,246	7-59	104,916
Teton	275	S 223 (1) U-1	6.003	GD-GS-BST	8-58	268,140	7-59	258,472
Teton	275	S 223 (1) U-2	114'	MB (TT)	9-58	18,806	5-59	18,969
Glacier	276	S 185 (1)	3.909	GD-GS	10-58	117,698	9-59	119,571
Glacier	276	S 185 (2)	12.113	GS-BPM-BSC	3-59	357,324	6-60	351,057 e
Mineral	277	S 216 (2)	3.391	GD-GS-BPM-BSC-GR	3-59	297,245	U-W	
Fergus	278	S 342 (7)	13.017	GS-BPM-BSC	3-59	203,308	8-59	209,164
Rosebud	279	S 362 (5)	9.049	GS-BPM-BSC	3-59	153,460	8-59	157,930
McCone	280	S 31 (4)	8.097	GD-GS	4-59	178,470	11-59	169,255
Sheridan	282	S 313 (4)	15.633	BPM-BSC	4-59	172,265	6-60	158,753
Dawson	283	S 32 (9)	10.037	GS-BPM-BSC	5-59	155,420	U-W	
Flathead	284	S 157 (2)	10.392	BPM-BSC	5-59	124,413	U-W	
Lake	285	S 178 (6)	4.825	BPM-BSC	5-59	71,543	8-59	67,638
Dawson	286	S 270 (2)	0.232	GD	5-59	47,332	10-59	41,906
Stillwater	287	S 175 (1)	6.431	GD-GS-BPM-BSC	6-59	316,685	U-W	
Pondera	288	S 193 (1)	7.397	GD-GS-BPM-BSC	6-59	342,352	U-W	
L. & C.	289	S 2 (7)	7.262	GD-GS-BPM-BSC	7-59	355,006	U-W	
Wibaux	290	S 95 (3)	7.010	GD-GS-MB (TT)	7-59	195,553	U-W	
Phillips	291	S 107 (7)	1.225	GD-GS	7-59	359,248	6-60	347,101
Garfield	292	S 258 (2)	0.225'	GD-MB	7-59	90,013	U-W	
Chouteau	293	S 219 (4)	7.994	GD-GS-BPM-BSC	10-59	253,961	U-W	
Carbon	294	S 136 (1)	10.524	GD-GS	11-59	413,509	6-60	122,399
Meagher	295	S 14 (8)	11.859	GD-GS-BPM-BSC	9-58	299,154	U-W	
Fallon	296	S 51 (4)	4.597	GD-GS	9-58	67,520	8-59	64,121
Wheatland	297	DS 64 (2) S 64 (3)	8.709	GD-GS-MB (TT)	9-58	239,753	9-59	228,920
Lake	298	DS 178 (4) S 178 (5)	7.759	GD-GS-BPM-BSC-MB (TT)	9-58	277,029	8-59	371,262
Phillips	299	DS 187 (5)	6.394	GD-GS	9-58	191,197	5-60	186,175
Lincoln	308	S 38 (6)	5.854	GD-GS-BPM-BSC	10-58	283,605	U-W	
Custer	301	S 45 (8)	5.668	GD-GS	8-58	126,456	7-59	121,541
Toole	302	S 107 (6)	8.057	GD-GS	10-58	34,720	6-59	34,923
Meagher	303	DS 49 (6)	3.268	GS	8-58	21,873	9-58	21,871
Musselshell	304	S 236 (3)	7.056	GD-GS	10-58	133,122	7-59	134,332
L. & C.	305	S 228 (1)	17.789	GD-GS-BST	8-58	730,034	6-60	742,800 e
Garfield	306	S 264 (2)	111'	MB	10-58	94,952	9-59	93,677
Big Horn	307	S 260 (1)	11.412	GD-GS	11-58	304,368	10-59	301,532
Fergus	308	DS 261 (2)	2.150	GD-GS-BPM-BSC	8-58	197,133	9-59	199,032
Carbon	309	DS 274 (2)	3.360	GD-GS	11-58	339,752	9-59	329,914
Carter	310	S 196 (1)	10.968	GD-GS	11-58	112,969	9-59	116,420
		Note Practically all surfacing projects include a gravel stockpile of 100-150 tons. The cost is not shown in Col. 8.		e - (Estimated)				

PROJECTS BUILT BY BUREAU OF PUBLIC ROADS
WITH NATIONAL FOREST FUNDS

0 COUNTY	IDENT NUMBER	2 PROJECT NUMBER	3 PROJECT LENGTH	4 TYPE OF WORK	5 DATE OF LETTING	6 AMOUNT OF CONTRACT	7 DATE COMPLETED	8 FINAL CONTRACT AMOUNT
Sanders	147	F.H.P. 6-D5	2.293	GD-GS-BRM	3-60	151.524	U-W	
Gallatin	156	F.H.P. 46-A4	8.038	GD-GS-BPM-MB	6-60	211.920	U-W	
Flathead	179	F.H.P. 13-C4,D4,E2,F5 H-2	9.163	BPM	12-57	190,727	7-59	172,272
Meagh.-Casc.	180	F.H.P. 32-B6,F4,H2,I3	6.108	GD-GS-BST	6-58	314,639	8-59	318,711
Gallatin	181	F.H.P. 42-J5,K1	7.878	GD-GS-BST-MB	10-57	268,127	7-59	294,243
Sanders	182	F.H.P. 6-B1,C1,I4	6.517	GD-GS-BRM	8-58	540,122	8-59	499,965
Flathead	183	F.H.P. 12-A4,B3,C2	13.950	BPM	12-58	175,861	U-W	
Flathead	184	F.H.P. 13-I5,J3	3.994	GD-GS-BST	10-59	518,793	U-W	
Beaverhead	185	F.H.P. 20-A	6.711	GD-MB (TT)	9-58	296,440	U-W	
Gallatin	187	F.H.P. 42-K2,L3	8.878	GD-GS-BST-MB	11-58	420,728	U-W	
Gallatin	314	F.H.P. 45-C1	1.600	GD-GS-BST	5-60	28,000	U-W	
Lake	311	F.H.P. 15-A3,D1,E1,G1,H1	20.660	GS-BPM	5-57	551,569	8-58	533,954
Missoula	312	F.H.P. 15-F1,H2,I1	18.326	GS-BPM	7-58	348,252	8-59	311,862
Lincoln	313	F.H.P. 5-A1,B	9.112	GD-MB (TT)	7-59	414,621	U-W	
					TOTAL	$4,417,323		
		The projects bearing Ident Nos. 311, 312 and 313 are on the Secondary System.		The projects bearing Ident. Nos. 147, 156, 179, 180, 181, 182, 183, 184, 185 and 186 are on the Primary System.		The project bearing Ident. No. 314 is off the State System, along Hebgen Lake in the earthquake area		

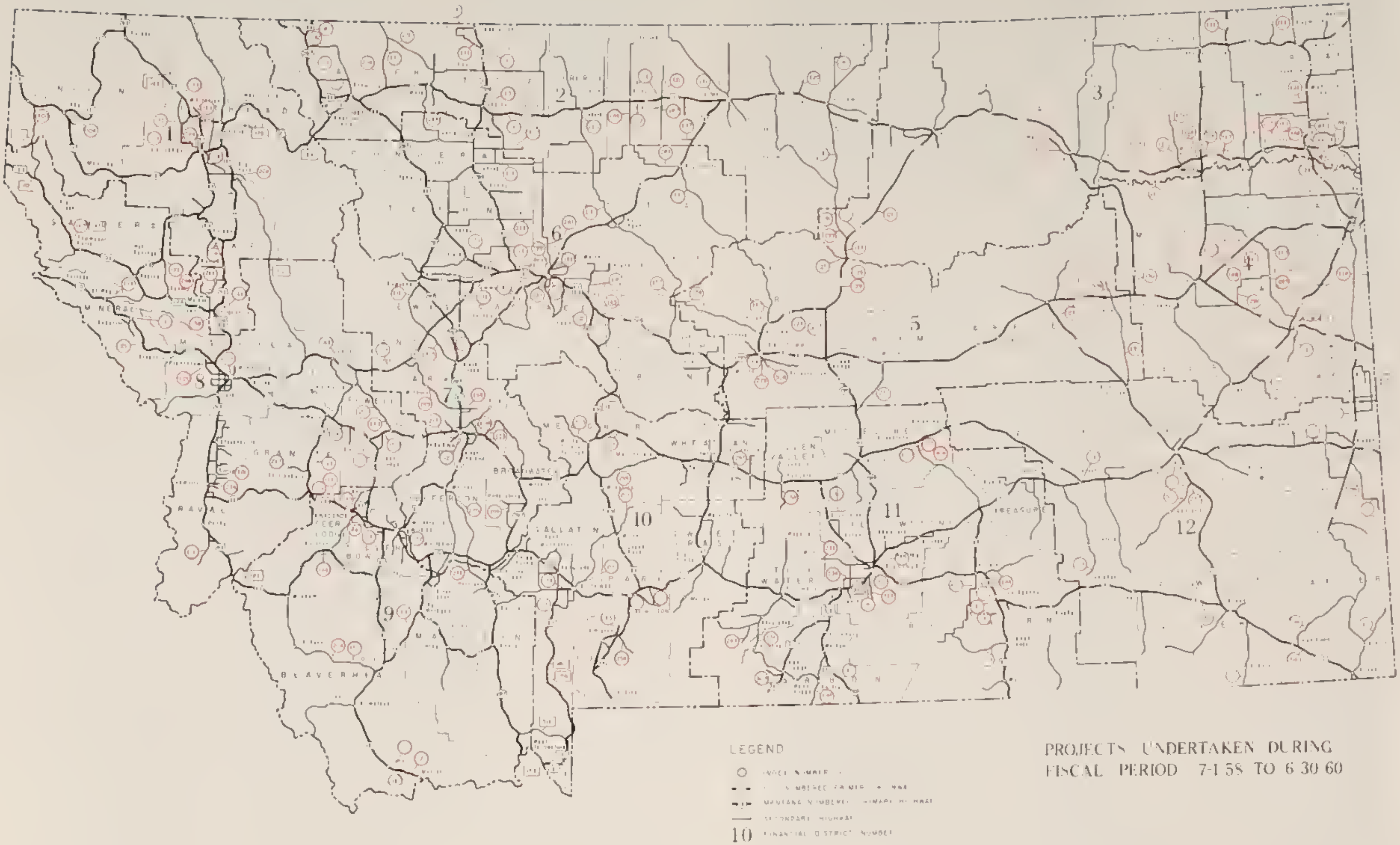


This is what the earthquake of August 1959 did to a portion of State Highway No. 287 along the shore of Hebgen Lake, a few miles north of West Yellowstone, Gallatin County.

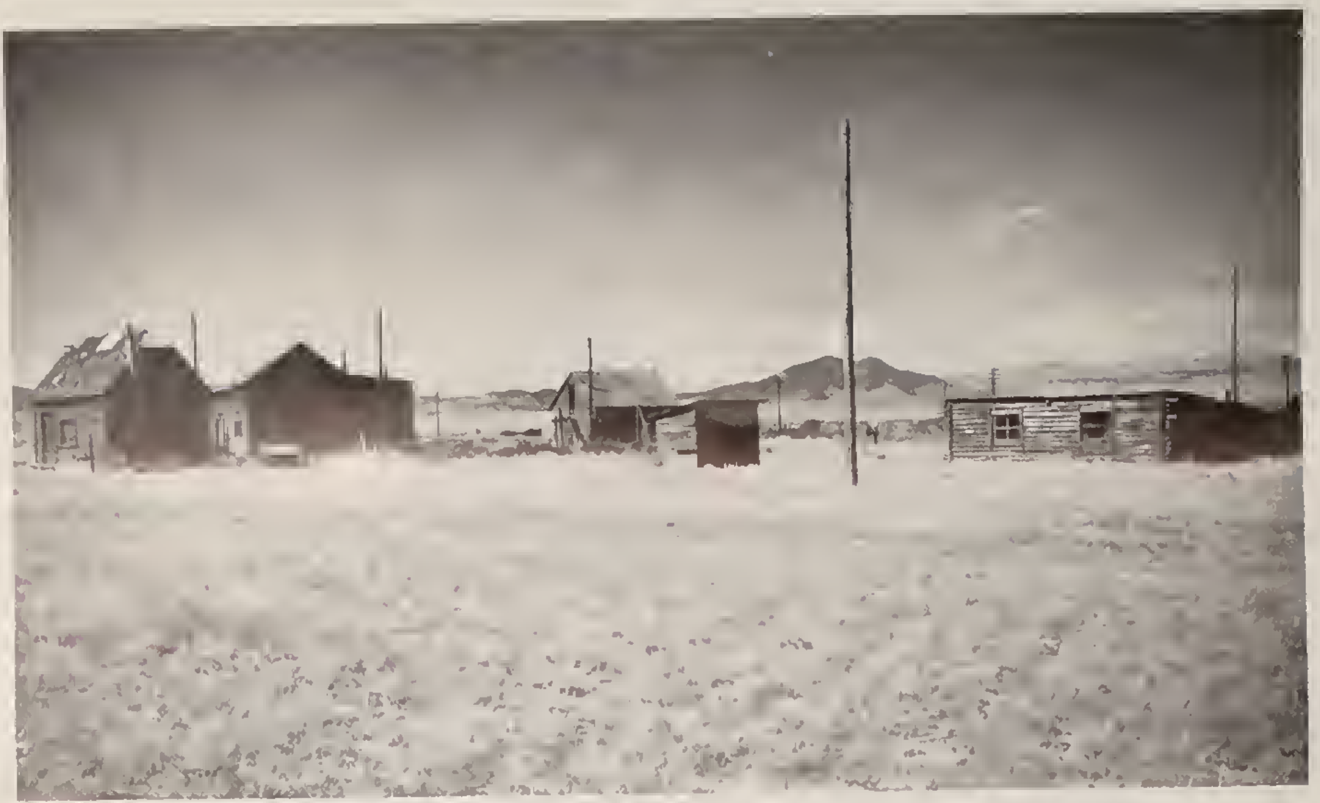


This is the dam, and the beginning of the reservoir on the Madison River, created by the earthquake of August 1959. State Highway No. 287 is covered with water. The pending Raynolds Pass route is in the distance.

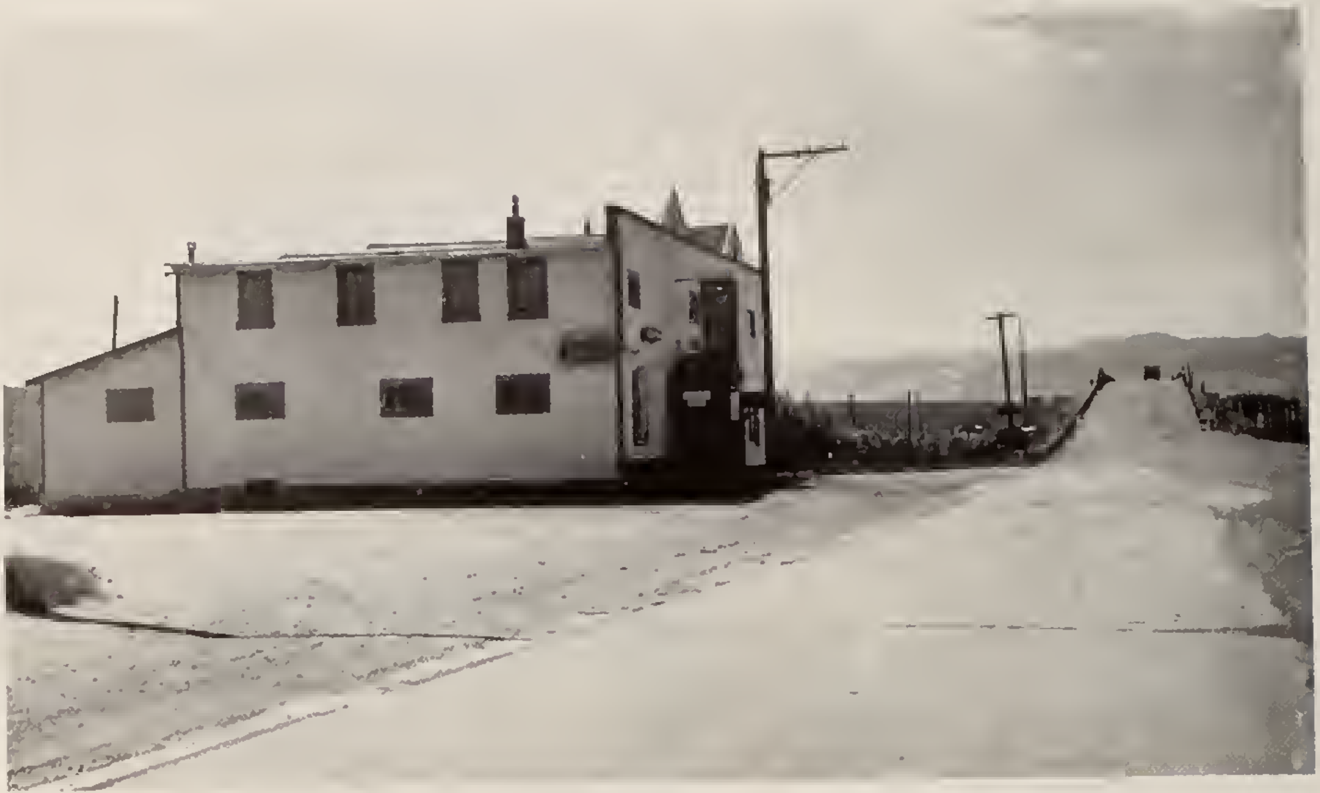
The replacement of that portion of State Highway No. 287, damaged or destroyed by the earthquake, will be financed by Federal Emergency Relief Funds under the administration of the Bureau of Public Roads. It is expected that about five miles between the Hutchins Ranch and Hebgen Dam, over the slide area, will be let to contract in the fall of 1960. The balance to the Duck Creek Wye will follow as soon as possible.



PROJECTS UNDERTAKEN DURING FISCAL PERIOD 7-1-58 TO 6-30-60



These buildings, resting on about three acres of pasture land, appraised at $57,500 by the Court.



This building, resting on about one acre of ground, appraised at $104,000 by the Court.

RIGHT-OF-WAY REPORT

This report has been prepared to cover a longer period of time than the biennium of 1958-60 because it is the first comprehensive report prepared, for publication, since 1932. Subsequent reports will be limited to a biennium.

The Right-of-Way Division of the State Highway Department was organized as a result of a decision handed down by the Montana Supreme Court in the case of the State of Montana vs. McMasters, et al (80 Mont. 228) in October, 1927, which held that a county could not condemn right-of-way for a state highway system.

The Right-of-Way Division was supervised, initially, by the State Highway Commission Secretary. The Division consisted of three employees—one clerk, one field agent and one attorney who also assisted with routine paper work. A right-of-way engineer was employed in 1929, making a total of four employees.

Pioneering in right-of-way acquisition was both interesting and extremely difficult. Transportation was a major problem in many, many cases. In order to look over the alignment and to contact many of the landowners, it was necessary for the field agent, upon many occasions, to travel by saddle horse or carriage. Many calls were made on foot where other means failed. Paper work was simplified and minimized, and land values were determined by the field agent consulting local realtors, county records and local officials. Everyone recognized the necessity for good roads and, upon many occasions, the right-of-way was donated for entire projects. The only condemnation, at that time, was the outgrowth of the inherent difficulty in assessing damages rather than because of land values.

During the fiscal year ending June 30, 1928, 1,266.15 acres of right-of-way were purchased at an average cost of $29.23 per acre. Four years later, or during the fiscal year 1932, a record was set that held for 19 years, as far as moneys were concerned, and 22 years as far as the number of acres purchased was concerned. $390,773.77 was expended for 3,887.10 acres of land at an average cost of $24.50 per acre. At this time, seven people were employed in the Division. In 1952, with a staff of twelve people, 1,947.30 acres were purchased at an average cost of $41.38 per acre, for a total of $420,844.25. In 1955, with a staff of eighteen employees, 4,226.16 acres were purchased at an average cost of $51.90 per acre, for a total of $843,348.98.

From 1933 to 1950 the Division operated with an average of eight persons, consisting of one right-of-way engineer, two field agents, two designers, one land agent and two stenographers. The legal section consisted of one attorney, and a large part of the time he did not have a stenographer. Besides his duties in the Right-of-Way Division in handling the few right-of-way condemnations, he was able to handle all of the Commission's legal matters.

While personnel increased during this period, it was not until 1956 that it became apparent our right-of-way staff would have to be drastically augmented. This was necessary to meet the requirements of the Bureau of Public Roads, whose regulations began to demand appraisals on each and every parcel to be secured and because the general right-of-way procedure was so stringent and required so much more documentation. In 1956, the staff increased to 26, in 1957 to 36, in 1958 to 83, at which point it has held until the present. All right-of-way personnel operated out of the Helena headquarters prior to 1957. In July of 1957, all right-of-way agents were transferred to the five District headquarters located at Missoula, Butte, Great Falls, Glendive and Billings. At the present time there are 37 persons in the Helena headquarters and 46 in the District offices, making a total of 83 people engaged in right-of-way acquisition.

Present day right-of-way acquisition, in conformity with regulations of the Bureau of Public Roads, is unbelievably complicated and the details are multitudinous. An appraisal must be made on each and every parcel of right-of-way required, whether it is a fraction of an acre, or a motel, or a farm valued at many thousands of dollars. Property of high value often requires two or more appraisals. Appraising and negotiating cannot be carried on by the same agent. Whereas, during the 1930's, 1940's and early 1950's, all right-of-way negotiations on a parcel were conducted by the same right-of-way agent and could be settled in a matter of a few weeks, now it takes many weeks to appraise a project before the negotiators can enter the picture

It used to be, in the 1930's, 1940's and early 1950's that condemnation was almost an unheard of procedure in purchasing right-of-way. The number of condemnation cases facing our Legal Section, at the end of the biennium, is approaching one hundred.

Due to our inadequate laws, and many other contributing factors, we are finding ourselves frustrated by the delays and the exorbitant values being awarded by court-appointed commissioners.

For instance, west of Butte it was necessary for the Department to purchase a night club resting on a tract of approximately one acre of ground. See picture on Page 28. The club was appraised by several competent appraisers who reached a high appraisal of $49,500. This was submitted to the courts for their review and the court-appointed commissioners came in with a figure of $104,000. This has now been referred to the District Court to be heard before a jury.

Another example is one located just east of Helena at the intersection of US 91 and US 10 East. The buildings were resting on twenty-three lots (about three acres) of pasture land See picture on Page 28. The Department appraisers valued this property at approximately $20,000 and the court-appointed appraisers came in with a value of $57,500 with no justification as to how they arrived at their figure. This case also will go to District Court for final disposition.

Table "A", on Page 30, shows that $20,647,808.40 has been expended by the State of Montana for right-of-way for the state highway system from 1927 through June 30, 1960. It also shows that $8,625,508.75 has been received in Federal-aid on right-of-way since 1944, when the Government started to contribute toward the procurement of all lands to be used for highway purposes. The fiscal year 1960 indicates receipt of more Federal-aid than the expenditures. This is because there is a considerable time lag in the receipt of such funds because the records must be completely audited by representatives of the Bureau of Public Roads.

For the period 1928 to 1960, the Right-of-way Division has purchased 88,041.2 acres. Table "A" denotes that the average cost per acre, beginning with 1957, has undergone a marked increase This has been due to the increased purchases of right-of-way for the Interstate System in and near the large metropolitan centers and in some heavily cultivated agricultural areas. The lowest average cost per acre was paid in the year of 1939 when 2,746.53 acres were purchased for $14.21 per acre. The highest average cost per acre was paid in 1960 when 2,594.85 acres were purchased at an average cost of $424.00 per acre.

Table "B", on Page 31, shows a few cost averages in connection with the acquisition of right-of-way solely for the Interstate Highway System.

TABLE A

RIGHT-OF-WAY EXPENDITURES 1928-1960

SECONDARY, PRIMARY & INTERSTATE HIGHWAY SYSTEMS

Fiscal Year	Right-of-Way Expenditures	Federal Aid Received	Expended for Land	Number of Acres Purchased	Average Price Per Acre
1928	$ 128,177.90		$ 48,105.89	1,226.25	$ 29.23
1929	183,631.03		93,581.59	2,539.00	36.86
1930	270,923.94		87,788.90	2,797.62	30.40
1931	375,483.58		128,276.85	3,662.14	33.09
1932	245,949.22		58,979.11	2,498.94	22.81
1933	390,773.77		104,413.28	3,887.10	24.50
1934	282,963.94		82,532.26	2,739.21	28.46
1935	181,042.79		53,992.64	1,980.11	26.52
1936	326,714.69		99,344.84	3,456.83	24.32
1937	190,094.96		47,705.72	2,455.46	17.49
1938	159,083.33		48,450.49	1,988.88	17.44
1939	174,523.64		42,927.67	2,746.53	14.21
1940	239,217.89		70,886.99	3,465.75	19.80
1941	218,324.48		59,772.52	3,570.06	16.45
1942	153,140.53		49,559.93	2,340.49	20.65
1943	240,077.33		6,010.14	319.90	18.37
1944	159,740.17	$ 2,804.00	61,143.66	1,649.10	37.55
1945	56,310.23	6,156.79	26,673.84	1,373.41	19.33
1946	134,980.70	1,157.27	47,539.40	2,046.54	23.22
1947	108,741.54	4,505.48	32,069.42	2,019.41	15.04
1948	151,978.31	25,849.67	42,580.69	1,458.53	28.61
1949	289,700.17	90,026.97	63,766.94	1,153.69	43.13
1950	234,046.87	66,834.30	39,017.13	1,743.94	21.54
1951	340,609.72	52,781.91	84,896.48	2,027.98	34.01
1952	420,844.25	79,625.84	90,660.08	1,947.30	41.38
1953	632,330.02	112,962.43	132,346.84	2,840.54	46.24
1954	669,889.89	115,184.34	141,530.13	2,744.89	51.56
1955	843,348.98	210,879.63	219,337.68	4,226.16	51.90
1956	1,080,644.04	118,973.31	306,302.99	4,769.68	58.42
1957	1,502,343.24	809,241.00	669,149.24	4,012.09	166.78
1958	1,712,223.47	434,380.90	662,721.36	4,241.10	156.26
1959	5,027,650.06	2,592,600.53	1,665,534.16	5,517.72	301.83
1960	3,522,592.22	3,901,121.50	1,111,365.89	2,594.85	424.00
TOTAL	$20,647,808.40	$8,625,087.87	$6,479,959.75	88,041.20*	

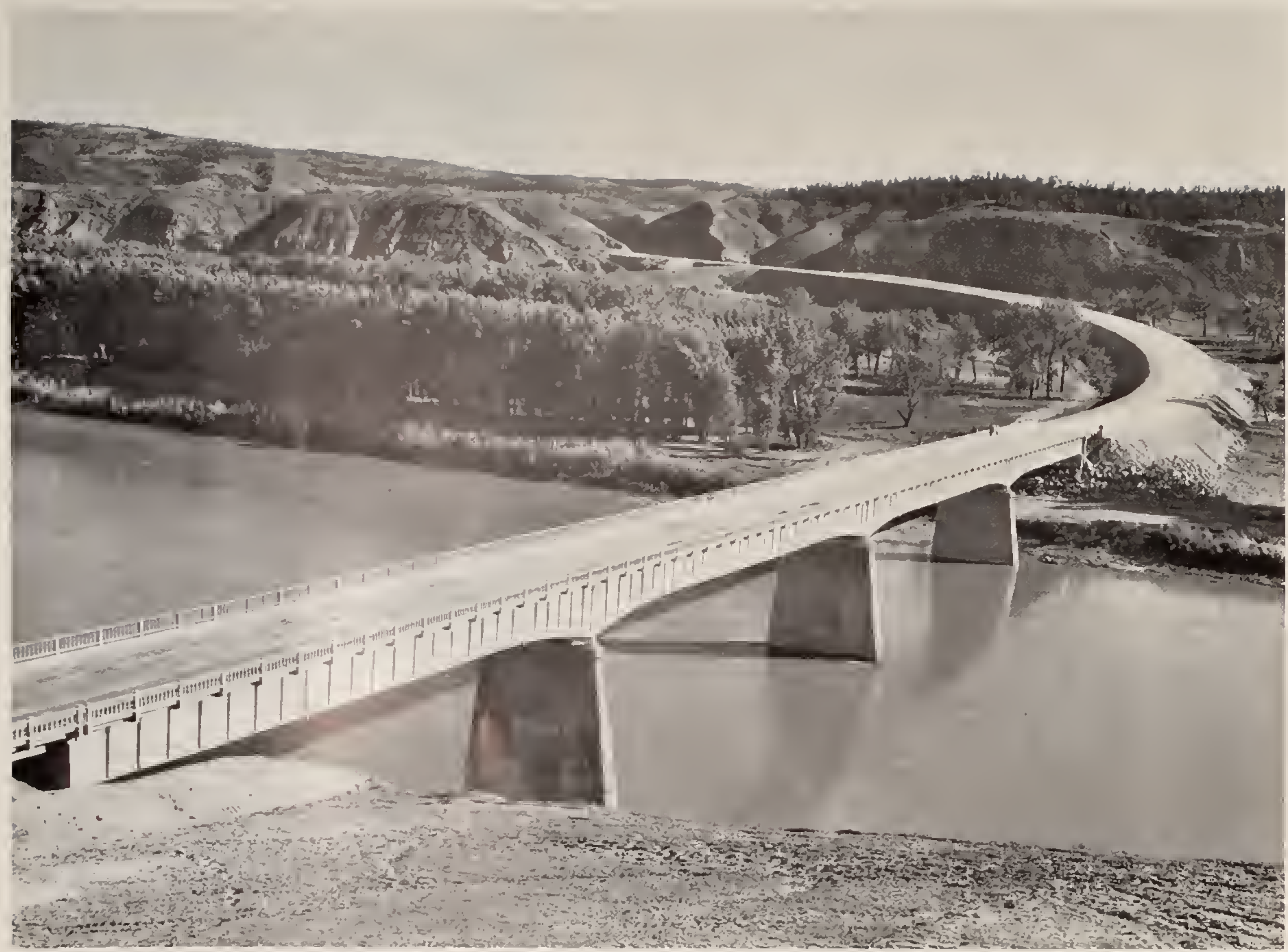
*Includes 1,427 City Lots.

TABLE B
ILLUSTRATIVE AVERAGE RIGHT-OF-WAY COSTS CURRENT INTERSTATE PROJECTS

Location	Average Cost Per Acre for Land	Average Cost Per Acre for Damages	Average Cost Per Acre for Land and Damages	Total Acres To Date
Cascade - Ulm	82.20	167.25	249.45	475.84
Shelby - North & South	1,228.33	142.65	1,370.99	246.64
Sunburst - North & South	238.40	533.08	771.48	126.53
Great Falls - Vaughn	151.47	234.14	385.61	313.24
Springdale - Mission	1,022.81	1,381.69	2,404.50	271.52
Livingston Vicinity	83.15	199.71	282.86	428.41
Mossmain - Billings	4,355.39	3,093.39	7,448.75	180.63
Superior - East & West	815.97	1,623.07	2,439.04	237.60
Nissler - South	892.17	422.11	1,314.28	123.47
Butte - Urban	4,456.13	30,825.91	35,282.04	35.00

Damages include improvements, severance, controlled access, etc.

Four-lane Interstate Highway between Cascade and Ulm on U. S. 91 or Interstate Highway No. 15.



Fred Robinson Bridge across the Missouri River between Malta and Grassrange on State Route No. 19

FINANCIAL REPORT

The Chief Accountant's functions, duties and responsibilities are to account for all monies received and expended from the State Highway Fund and the State Highway Trust Fund and to keep segregated records thereof; to establish cost accounting procedures which will give detailed itemization by receipts and disbursements; and to provide all financial reports and records as required by law or directive or that are necessary and needed by the State Highway Commission, State Highway Engineer and division and section heads, as they relate to the administration, construction and maintenance of the State's highways.

Section 32-1619 of the Montana Codes requires the establishment of the State Highway Fund and the State Highway Trust Fund. This statute states that the State Highway Fund shall be credited with all monies received for the use and purpose of the State Highway Commission from the receipt or transfer of motor fuel taxes or from other sources, except as therein provided. The State Highway Trust Fund shall be credited with all monies received from the various counties, from the Federal government, and from other agencies for expenditure by the Commission in connection with the actual construction of specific projects. The State Highway Fund is commonly called the "138 Fund" while the State Highway Trust Fund is known as the "104-10 Fund."

Section 32-1620 of the Montana Codes requires cost accounting procedures, specifying that the Highway Commission shall provide a system of accounting for each project which shall show the amount of money received therefor, and also an itemized statement of the expenses in connection therewith.

To meet the requirements of the law and to provide all necessary and needed financial information, the Commission has empowered the Chief Accountant to establish those accounting practices that will account for all monies received and expended and the cost accounting procedures that will show the detailed receipt and expenditure thereof. The Chief Accountant, to accomplish this end, utilizes the best established general accounting and cost accounting procedures available. Utilization is made of the latest machine methods available, especially in the field of cost accounting. Detailed cost records are kept, not only for construction projects, but also for administrative and maintenance operations and functions.

All claims by contractors for work in place, vendor's claims, purchases of land for right-of-way, in fact all claims, are preaudited to show that proper authority for said expenditures was given before incurrence therefor, for legality, for correctness and for cost accounting code. Payrolls for all highway employees must pass through this preauditing inspection.

The State's financial share for the cost of constructing and reconstructing highways, performing the necessary engineering and procuring rights-of-way is also transferred to the State Highway Trust Fund and is taken out of the State Highway Fund. In fact the State's share provides the initial funds with which to pay contractors, right-of-way purchases and engineering costs, inasmuch as Federal monies are received on a reimbursable basis after the work has been accomplished, and then only for its prorated share of the work actually in place at a given time. The State Highway Commission must have an approved agreement with the Federal government by project in order for that agency to participate in the costs of construction, engineering and procurement of rights-of-way. Before any Federal monies are received, a certain amount of work must be in place and funds actually expended and said expenditures must conform to Federal regulations and basic agreement before the Federal share of the expenditures can be recovered.

Generally, as construction goes along, the State can recover the Federal portion within a relatively short period on progress vouchers. However, before it recovers the Federal share completely, all work must be complete and the project accepted by both the State and Federal governments. Final voucher, listing all costs, is then prepared. Before the Federal government pays its final share, it completely audits all cost records. Receipt of final payment on most projects is from about three months on secondary road projects to four to six months on interstate and primary projects. Sometimes, due to technicalities, final payment may be delayed as much as a year.

The Federal government, through the Bureau of Public Roads, apportions funds to the State by system; that is, primary, secondary and interstate. The State must match Federal funds by system and this matching is further segregated by financial district apportionment.

Receipt and Expenditure accountability for the 1959-1960 fiscal year amounted to some $105,000,000.00 or almost three times that of the fiscal period 1949-1950. This includes receipt and expenditure accountability of the State Parks Division, which responsibility was given the Chief Accountant by State law and again requires segregation of receipts and expenditures from other highway funds.

The tables on Pages 34 and 35 show all receipts and expenditures for this biennium.

STATEMENT OF RECEIPTS AND DISBURSEMENTS
FOR THE BIENNIUM
JULY 1, 1958 THROUGH JUNE 30, 1960

FUND BALANCES AND RECEIPTS
FUND BALANCES

FUNDS ON HAND JULY 1, 1958			
State Highway 138 Fund		$ 3,093,244.12	
State Highway Trust 104-10 Fund		4,137,799.99	
Federal Aid Trust 104-70 Fund on Hand	$ 22,661.19		
Vouchers Receivable from Government (in transit)	2,477,338.81	2,500,000.00	
Total Funds on hand			$ 9,731,044.11

RECEIPTS

STATE SOURCES			
Motor Fuel Tax	$32,440,593.26		
U. S. Oil Royalties	1,693,171.49		
Gross Vehicle Weight Tax	6,471,979.39		
New Auto Caravan Tax	18,178.25		
Size & Weight Permit Fees	164,297.00		
Proportional Licensing and Identification	88,690.00		
Miscellaneous	19,280.98		
Civil Defense (Radio Equipment)	485.80		
Gross Income		$40,896,676.17	
Less Legislative Appropriations		347,666.83*	
Total Net Receipts—State Sources			$ 40,549,009.34

* Denotes Deduction

FEDERAL AID RECEIPTS		
Primary Highway System	$14,352,726.56	
Interstate Highway System	17,782,132.74	
Secondary Highway System	12,093,205.13	
Federal Lands Highway Funds	786,692.00	
Grade Crossings—Primary	1,288,172.64	
Grade Crossings—Secondary	66,408.87	
Defense Access Highways	110,220.01	
Urban Highways	529,772.42	
Preliminary Engineering (Survey, Routings, etc.)	2,834,737.16	
Right-of-Way	6,606,866.41	
Total Net Federal Receipts		$ 56,450,933.94
MISCELLANEOUS RECEIPTS		
Counties, Cities, etc.		$ 1,375,835.86
FEDERAL AID TRUST—104-70	$ 8,303,877.72	
Less Vouchers Receivable	2,476,729.30*	
Less Reversion to Government	2,497,044.43*	
Net 104-70 Income		3,330,103.99
Net Grand Total Receipts and Funds on Hand		$111,436,927.24

DISBURSEMENTS

CONSTRUCTION		
Project Construction (Payments to Contractors)	$60,514,671.94	
Construction Supervision	4,841,781.66	
Right of Way	8,489,682.04	
Preliminary Engineering	3,403,248.47	
Total Construction		$ 77,249,384.11
MAINTENANCE (Including Supervision)		$ 12,645,952.85
CAPITAL OUTLAY		
Equipment		
Office	120,495.38	
Photographic	2,322.55	
Engineering	63,137.99	
Laboratory	31,878.07	
Mobile and Maintenance	1,031,970.92	
Minor Maintenance and Construction	3,150.42	
Stores		
Mobile and Maintenance	52,323.86	
Office	11,262.55	
Automotive Repair Parts	66,026.54	
Gravel	32,609.36*	
Gravel Production for Stores	166,257.45	
Authorized Shop Expenditures	18,514.24	
Highway Buildings	470,801.23	
Radio, Construction of Stations	33,739.16	
Division Shop Tools	31,748.09	
Division Gasoline Storage	17,838.32	
Division Road Oil Storage	13,995.67	
Construction Gravel and Sand Pits	42,039.01	
Sub-Total	2,144,892.09	
Less State Owned Equipment Earnings Surplus	1,059,428.62*	
Total Capital Outlay		$ 1,085,463.47

MISCELLANEOUS OUTLAY		
Highway Tourist Maps	$ 93,263.55	
Dissemination of Public Information	169,987.69	
Highway Building Repair	67,159.58	
Gross Vehicle Weight Collection Expense	389,050.51	
Importers Gas Tax Collection Expense	14,553.21	
Losses, Fire and Other	4,635.50*	
Accounts Receivable	17,052.19	
State Parks Access Roads	31,272.89	
State Paid Retirement, P.E.R.S. Premiums	525,464.90	
State Paid F.I.C.A., Social Security Premiums	462,059.69	
Interest and Sinking Fund	70,085.43*	
Total Miscellaneous Outlay		1,695,143.28
LEAVE		
Annual Vacation	940,263.23	
Sick Leave	399,793.63	
Military Leave	28,065.16	
Total Leave		1,368,122.02
ADVANCE PAYMENTS FROM THE 104-70 FUND		5,827,148.42
ADMINISTRATIVE		
Commission	37,969.39	
Department	1,668,988.78	
Total Administrative		1,706,958.17
GRAND TOTAL ALL EXPENDITURES		$101,578,172.32

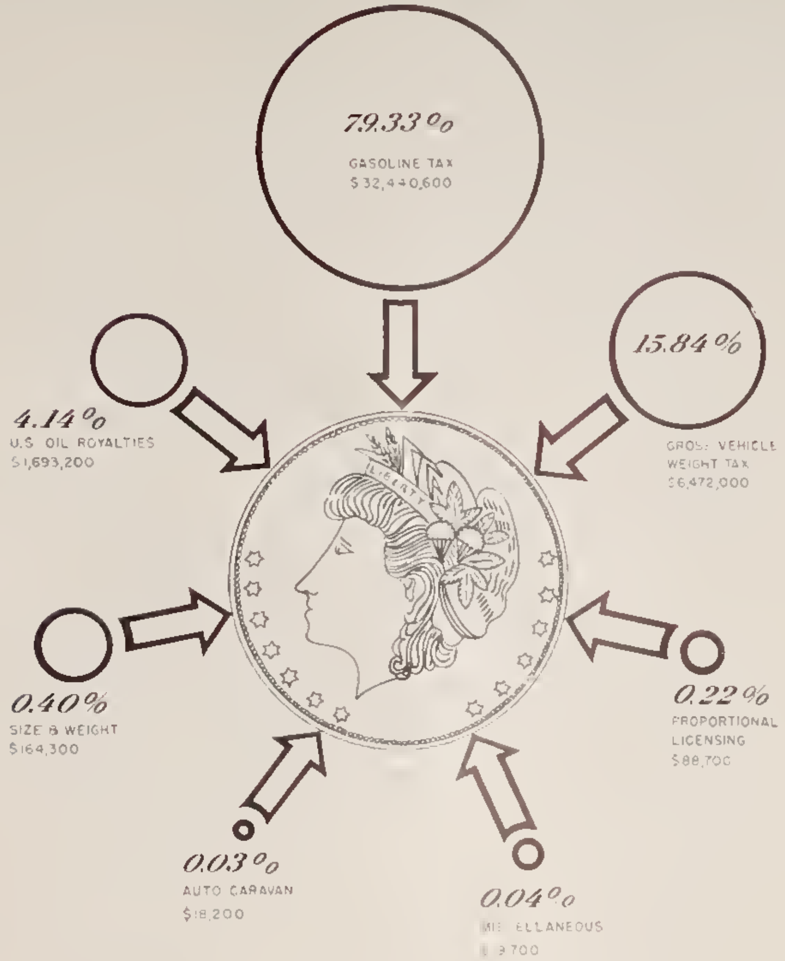
FUND BALANCES

ADD FUND BALANCES JUNE 30, 1960			
Highway Fund 138		8,912,608.52	
Highway Trust Fund 104-10		943,190.83	
Federal Aid Trust Fund 104-70 On Hand	$2,346.06		
Vouchers Receivable (in Transit)	609.51	2,955.57	
Total Funds on Hand June 30, 1960			9,858,754.92
TOTAL EXPENDITURES PLUS FUND BALANCES			$111,436,927.24

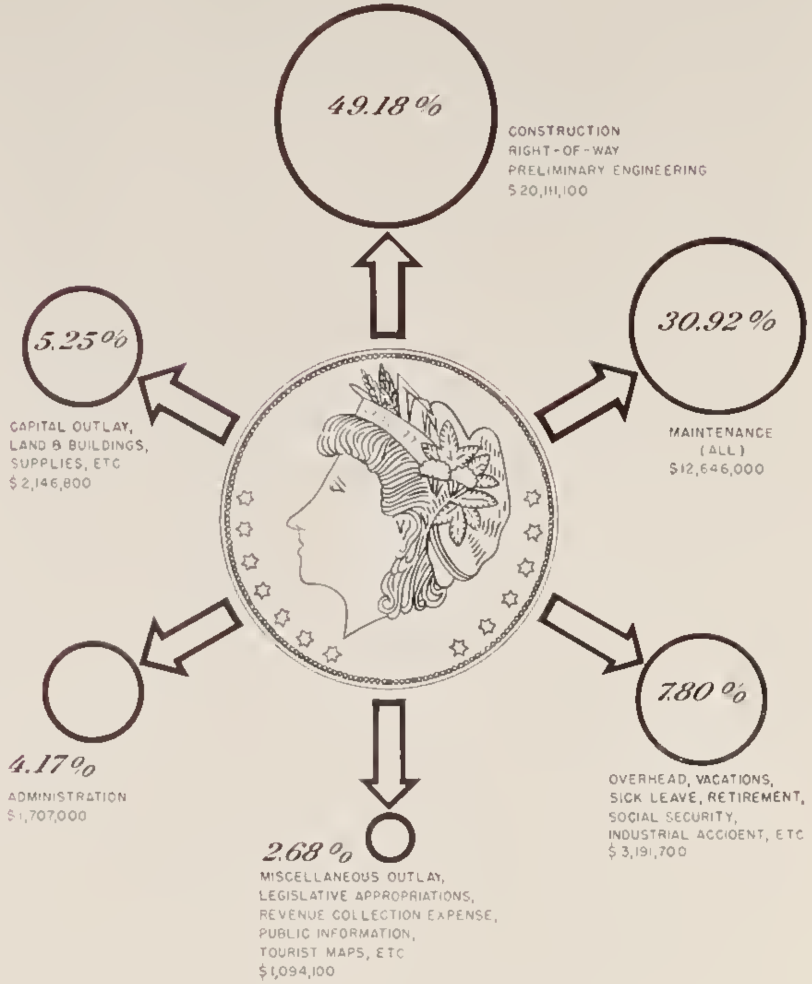
* Denotes Deduction

THE HIGHWAY DOLLAR

WHERE IT CAME FROM



WHERE IT WENT



$40,896,700 TOTAL HIGHWAY REVENUE

PERSONNEL REPORT

The major functions, duties, and responsibilities of the Personnel Office are:

(a) To screen applicants as to their basic qualifications and their application to such vocations as engineering and technical professions, administrative operations and professional trades. The information is subsequently filed, categorically, for the future reference of division and section supervisors who are responsible for the final selection and placement. This procedure is calculated to save the supervisor valuable time in investigation and considerable unnecessary interviewing.

(b) To maintain complete personal histories on all employees in classified service as well as time and attendance records and performance ratings.

(c) To insure that all prescribed regulations, statutory laws and Commission policies are strictly complied with where they concern personnel procedures. This encompasses such matters as veterans' preference, resident requirements, proper age limits, employee conduct, and other prescribed criteria.

(d) To compile statistical reports with subsequent analyses of wage structures, retention factors, cost-of-living index, organizational changes, advancements and turnover. These analyses are based almost entirely on comparative studies conducted in other states, supply and demand, and factors of money, manpower, and management.

This report includes statistical charts covering wage rates, personnel changes, and growth of the Department due to the increased demands imposed by the Interstate Highway Program. The wage schedule for maintenance crafts is covered in the Highway Maintenance Report on Page 41.

One program which has been established and has been very effective in this biennium is the granting of service pins and certificates for terms of employment of five years and multiples thereof. After the initial distribution, which occurred in May 1958, there have been two hundred twenty subsequent awards granted for from five to forty years tenure. This has added greatly to the employees' pride in the Department.

The American Association of State Highway Officials has a similar recognition plan with the exception that the prerequisites are twenty-five years service and status of professional engineer in the category of middle management and above. The Montana Highway Department has fifty-six recipients of this meritorious distinction, forty-three of whom are actively employed at the end of the biennium.

The functions, duties and responsibilities of the Training-in-Service Engineer are so closely related to personnel actions that his work is described in this section of the report. The primary function of the Training-in-Service Engineer is to make wide-spread and effective use of existing and new sub-professional engineering manpower through upgrading and training, and to offer training inducement to recent engineering graduates.

Two distinct training programs are provided by this division: The "Training-in-Service Program" for sub-professional employees and the "Engineer-in-Training Program" for recent engineering graduates. The setting up, initiating and controlling of both programs is a principal function of the Training-in-Service Engineer.

During the past two years approximately two hundred fifty employees, on the average, have been enrolled in the Training-in-Service Program and eight graduate engineers in the Engineer-in-Training Program.

Seventeen voluntary off-duty study courses have been conducted throughout the State with most of these courses being conducted two or more times. Some of the schools that have been conducted pertained to: Basic Engineering, Advanced Engineering, Basic Science, Automatic Calculator, Concrete Paving, Human Relations or Personnel Management, Road Plans Design, Road Plans Detailer, Bituminous Paving and Electronic Computer. Approximately five hundred employees have attended these schools during the past two years.

Tests have been established covering forty categories of work situations in conjunction with the Training-in-Service Program and approximately seven hundred examinations have been given during the past two years.

The tabulation on Page 38 shows the various employment classifications, minimum and maximum wage scales at beginning and end of biennium, number of people in each classification and increase or decrease in each category.

New bridge across the Yellowstone River at Miles City.

SALARY SCHEDULE

Numerical Classification Designation	Salary Range 1957 Min.	Salary Range 1957 Max.	Salary Range 1960 Min.	Salary Range 1960 Max.	Number in Classification 1957	Number in Classification 1960	Increase or Decrease	
P-9	$1,000.00	$1,200.00	$1,050.00	$1,260.00	1	1		
P-8	790.00	955.00	830.00	1,000.00	4	4		
P-7	720.00	870.00	755.00	910.00	3	3		
P-6	630.00	755.00	660.00	790.00	17	17		
P-5	600.00	720.00	630.00	755.00	16	16		
P-4	550.00	660.00	575.00	690.00	15	15		
P-3	525.00	630.00	550.00	660.00	14	15	1	
P-2	475.00	575.00	500.00	600.00	89	101	2	
P-1	435.00	525.00	455.00	550.00	96	103	7	
SP-6	475.00	575.00	500.00	600.00	5	5		
SP-5	455.00	550.00	475.00	575.00	3	3		
SP-4	395.00	475.00	415.00	500.00	28	34	6	
*SP-3	360.00	435.00	375.00	455.00	126	196	70	
*SP-2	315.00	375.00	330.00	395.00	230	184		54
SP-1	300.00	Temp.	315.00	Temp.	125	138	13	
NE-11	600.00	720.00	630.00	755.00	5	6	1	
NE-10	525.00	630.00	550.00	660.00	3	6	3	
NE-9	475.00	575.00	500.00	600.00	13	15	2	
NE-8	435.00	525.00	455.00	550.00	30	30		
NE-7	395.00	475.00	415.00	500.00	19	23	4	
NE-6	360.00	435.00	375.00	455.00	24	27	3	
NE-5	330.00	395.00	345.00	415.00	36	37	1	
NE-4	300.00	360.00	315.00	375.00	35	38	3	
NE-3	270.00	330.00	285.00	345.00	36	33		3
NE-2	245.00	300.00	255.00	315.00	31	25		6
NE-1	225.00	270.00	235.00	285.00	21	18		3

* The gain of SP-3 and loss of SP-2 during this period indicates the need in basic technical employees. Through the training-in-service program this demand has been reasonably met. There has been no other appreciable gain in employees percentage wise when compared to the increased program.

HIGHWAY MAINTENANCE REPORT

The Maintenance Engineer supervises a component of the State Highway Commission organization to which is assigned the principal duty of upkeep and restoration of all roads and bridges on the primary system in such a manner that they may be kept in a safe and comfortable traveling condition during all seasons of the year, and to keep records pertaining thereto. Incidental to this duty, the Maintenance Engineer and the Helena Maintenance office personnel are responsible for:

The purchase and maintenance of all equipment used by all components of the Highway Department and to keep records pertaining thereto, including inventories and operation costs.

The purchase and distribution of all field supplies and materials, and to keep stores' records of those items kept in stock.

The purchase and/or construction and repair of all Department buildings, except headquarters, for the housing and repair of equipment and field offices.

The construction and maintenance of all radio facilities used by the entire Department.

The enforcement of the law pertaining to the Size and Weight of Motor Vehicles, including sale of permits for size and weight in excess of the maximum specified by the law.

The collection and dissemination of road information to the press and radio, as affected by construction and weather conditions.

The State is divided into five Districts which are further divided into Maintenance Divisions. There are eleven Maintenance Divisions in which Division Offices, shops and storage facilities are maintained. Division Engineers, under the general supervision of five District Engineers, are responsible for the maintenance of the primary system of roads in their respective areas.

The average number of employees in the eleven Maintenance Divisions vary from approximately forty in the smaller divisions to one hundred ten in the larger divisions. Mileage of road maintained by the Maintenance Divisions varies from 386 to 664. See Page 45. Division mileage is divided into sections, thirty to forty miles in length, each of which is manned by a sectionman and one or more helpers who perform the necessary general maintenance operations such as patching, weed removal, roadside clean-up, ditch cleaning, drainage, maintenance of signs, snow removal, and sanding. Special maintenance and betterment work, such as levelling courses, seal coating, major slide removal and major washout repair, is accomplished by combining two or more section crews, augmented by division headquarters' personnel. Division headquarters' personnel, manning reserve snow removal equipment, also assist section crews on snow removal operations when required.

Salary schedules for field maintenance employees, effective during the biennium, are shown on Pages 41 and 42.

The Division Engineers supervise and administer all maintenance work, stores and equipment pertaining thereto, and the operations of shop and storage facilities in each division. Division offices and shops are located at Butte, Great Falls, Billings, Wolf Point, Missoula, Kalispell, Havre, Miles City, Lewistown, Bozeman and Glendive. Storage quarters for section equipment are located at strategic places throughout the State

In addition to maintaining shops in each division, a State Shop and Equipment Depot is maintained in Helena under the supervision of a Plant and Equipment Manager. The Helena Shop and Equipment Depot maintains a garage and services headquarters' personnel cars, overhauls and services State crusher crew and striping crew equipment, rebuilds motors for exchange in motorized field equipment, maintains stores of small tools, makes shipments to field as required, and fabricates standard signs for use throughout the State.

The Shop Office personnel process all requisitions for equipment, supplies and materials to the State Controller where purchase orders are prepared and materials bought. They process all invoices pertaining to the above for payment, and supervise the maintenance of stock records, equipment inventories, small-tool inventories, and keep an operating cost record of all equipment.

The Radio Section is supervised by a Communications Engineer under the direction of the Maintenance Engineer. The State radio communication system is well established and provides rapid and direct contact between Helena headquarters and the several divisions, between divisions, between division offices and field forces, and between radio equipped vehicles.

Maintenance expenditures, by items, for the biennium are shown on Page 43. A brief explanation of the items follows:

Item 1. General Maintenance. General Maintenance is that phase of our operations covering routine maintenance work, such as oil mat patching, weed removal, drainage, signing, guard rail repair, snow fence erection and traffic services

Items 2 and 3. Snow Removal and Sanding. These items are General Maintenance items whose costs are kept separately.

Item 4. Special Maintenance. Special Maintenance consists of maintenance work involving unusual expense and sometimes increased forces and additional equipment. Monies for this work are allocated to divisions as required.

Item 5. Betterments. Betterment work consists of additions to original construction, such as gravel base, increased thickness of oil mat, guard rail, improved drainage structures, etc. Allocation of monies for this work is made to Divisions as required.

Expenditures for General Maintenance, Special Maintenance, and Betterments by Work Numbers are shown on Page 44.

Items 6 to 16 represent undistributed overhead expense. These items are self-explanatory. It will be noted that the total of items 1 through 16 is the cost of Road Maintenance only, including all overhead. A statement showing Total Cost Per Mile for General Maintenance, Special Maintenance and Betterments is shown on Page 45.

Items 17 to 20. Stores Accounts. The amounts shown opposite these respective accounts reflect the increase or decrease in the stores for the period noted. See table on Page 49.

Item 21. Equipment Rental. The amount shown for this item is a reconciliation of the equipment account. State-owned equipment used on a construction project by engineering forces, or on a particular section of highway by maintenance forces, is charged to the job at an established hourly or daily rental rate The total rentals collected on all equipment are calculated to pay the upkeep costs and cost of new equipment purchased during the fiscal year. Rentals collected in excess of repair costs, plus purchases, establishes a credit balance in this account. If rentals collected are less than repair costs plus purchases, the resultant debit balance represents a cash expenditure. A tabulation showing equipment purchases for the biennium, is shown on Page 46.

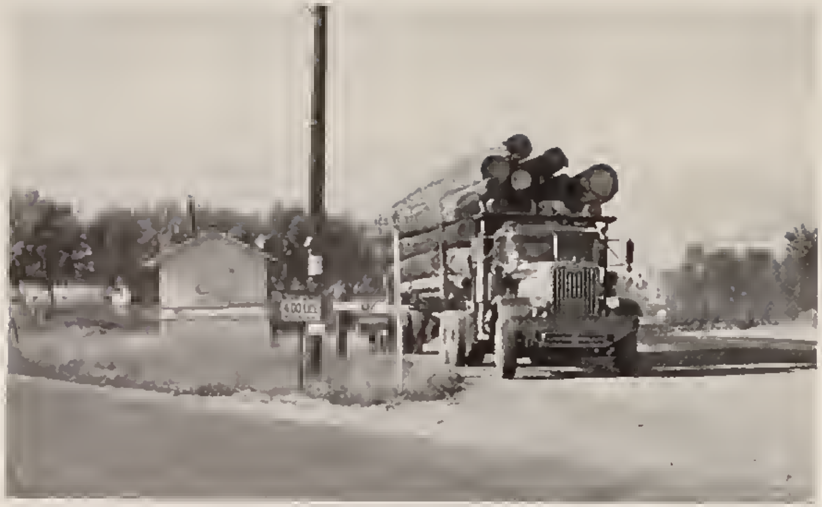
Items 22 to 26 represent cash expenditures for additions, such as buildings, to present facilities or new facilities constructed during the biennium. New facilities provided during the biennium are listed on Page 47.

Items 27 to 31 are included in maintenance operational costs, not chargeable to maintenance of primary roads.

A summary of maintenance costs for the two years of the biennium is shown on Page 48. This table is self-explanatory and is included for informational purposes. Snow removal and sanding costs, particularly the latter, are increasing yearly, due to public demand that roads be kept in a safe and comfortable traveling condition during all seasons of the year. Overhead charges have also increased during recent years, due principally to increased fringe benefits for employees.

The tabulations on Page 49 are a recapitulation of stores and equipment accounts for the two years of the biennium.

All completed roads on the primary system are kept open during the entire winter with the exception of Montana 38 over Skalkaho Pass, U. S. 312 from 12 miles south of Red Lodge to the Wyoming line over the Cooke City highway, and Montana 49 over Looking Glass Hill between East Glacier Park and Kiowa Junction.



AN INTERESTING CASE

	Actual Load Sizes	Legal Limit
Front Axle	8,680 lbs.	9,280 lbs.
Middle Tandem	48,720 lbs.	32,000 lbs.
Rear Tandem	44,310 lbs.	32,000 lbs.
Total Weight	101,710 lbs.	73,280 lbs.
Height	15 ft.	13 ft. 6 in.
Width	10 ft. 2 in.	8 ft.

WAGE SCHEDULE FOR MAINTENANCE EMPLOYEES

(Wage Scale for All Counties Except Cascade, Beer Lodge and Silver Bow)

The Following is a Monthly Schedule:

	Effective 9-16-57	Effective 9-16-58	Effective 9-1-59
Foreman: Division Maintenance	$500.00	$520.00	$540.00
Foreman: Maintenance	473.00	493.00	513.00
Sectionman - Gang Foreman	460.00	480.00	500.00
Division Mechanic	500.00	520.00	540.00
Stockman	399.00	419.00	439.00
Timekeeper	399.00	419.00	439.00
Gasoline Distributor	399.00	419.00	439.00
The Following is an Hourly Schedule:			
Blacksmith	2.60	2.70	2.80
Carpenter: Foreman	2.95	3.05	3.15
Carpenter: Journeyman	2.73	2.83	2.93
Mechanic - Machinist	2.60	2.70	2.80
Working Shop Foreman	2.65	2.75	2.85
Painter: Journeyman	2.60	2.70	2.80
Painter: Sign	2.85	2.95	3.05
Motor Patrol Operator - Finisher	2.70	2.80	2.90
Shovel Operator	2.70	2.80	2.90
Hot Plant Operator	2.70	2.80	2.90
Core Drill Operator	2.70	2.80	2.90
Powderman	2.46	2.56	2.66
Weed Spray Operator	2.44	2.54	2.64
Steam Cleaner Operator	2.46	2.56	2.66
Broom Operator	2.44	2.54	2.64
Caterpillar Operator	2.56	2.66	2.76

	Effective 9-16-57	Effective 9-16-58	Effective 9-1-59
Crusherman	$ 2.56	$ 2.66	$ 2.76
Distrib. Driver & Leverman over M gal.	2.46	2.56	2.66
Loader Oper. - Front - ¾ c.y. & Over	2.44	2.54	2.64
Motor Patrol Operator	2.56	2.66	2.76
Roller Operator	2.44	2.54	2.64
Power Chip Box Operator	2.44	2.54	2.64
Tank Car Heater - Retort Operator	2.34	2.44	2.54
Compressor Operator	2.28	2.38	2.48
Concrete Mixer Operator	2.28	2.38	2.48
Pulvi-Mixer Operator	2.28	2.38	2.48
Leverman 1,000 gal. & under	2.28	2.38	2.48
Loader Operator under ¾ cu. yd.	2.28	2.38	2.48
Mower Operator	2.28	2.38	2.48
Spreader Box Operator	2.28	2.38	2.48
Weighman	2.28*	2.38**	2.48***
Greaser & Oiler - Serviceman	2.28	2.38	2.48
Dumpman	2.22	2.32	2.42
Semi-skilled Labor	2.22	2.32	2.42
Laborer	2.10	2.20	2.30
Truck Driver, under 5 Ton	2.22	2.32	2.42
Truck Driver, 5 Ton and over	2.28	2.38	2.48

* The monthly rate for this classification is $399.00.

** The monthly rate for this classification is $419.00.

*** The monthly rate for this classification is $439.00.

NOTE: See Page 42 for General Provisions.

GENERAL PROVISIONS PERTAINING TO MAINTENANCE WAGE SCHEDULE

1. Designated work week for hourly employees will be Monday through Friday except where type of duty, such as janitor work, servicemen, watchmen, etc., requires Saturday and Sunday work, in which case, the supervisor will designate the work week and employee will be given another day off in lieu of Saturday or Sunday.

2. Eight hours shall constitute a day's work and forty hours shall constitute a week's work for hourly employees and all work performed in excess of 8 hours per day, or forty hours per week, or on days other than the designated work week, will be paid at the rate of time and one-half.

3. Hourly employees shall be paid eight hours at straight time for the following holidays not worked: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. When any of the above holidays fall on Sunday, the following Monday shall be considered as the holiday. Employees required to work on these days shall be paid at the rate of double time.

   Effective September 1, 1959, Veterans day and General Election Day were added. The following provision also was added: "If holiday falls on Saturday, then the preceding Friday shall be considered the holiday."

4. Employees on monthly rate will be expected to work such extra time over and above the 8-hour day and/or the 40-hour week as may be required to discharge their responsibilities.

5. Employees shall be classified strictly in accordance with the work they are performing provided, however, a change in classification should not be made if an employee is called upon to perform work for short intervals during the day other than his principal duties.

   Effective September 1, 1959, this provision was changed to read:

   Employees shall be classified strictly in accordance with the work they are performing provided, however, that employees temporarily assigned to a higher rated position for any part of a 4-hour morning or afternoon period will receive the higher rate of pay during that period.

6. Truck Drivers will be paid $0.06¼ per hour additional to basic pay when engaged in snow removal operations or when towing 4-wheel trailers or semi-trailers mounted on fifth wheel. Does not include towing light trailers, such as spray units, tar pots, compressors, etc. This premium rate is not subject to time and one-half or double time.

   Effective September 1, 1959, the rate was changed from $0.06¼ to $0.10.

7. Statutory expenses will be paid men engaged on gasoline distribution, mowing operations, equipment transfer (when not assigned to traveling crews), emergency snow removal, washouts, or other emergency assignments away from regular headquarters for short durations. This expense will be paid by claim.

   Effective September 1, 1959, the words "gasoline distribution" were removed from the above provision.

8. Travel time rate $1.98 per hour based on speed to and from work as 45 M.P.H.

   Changed to $2.07 per hour on September 16, 1958.

   Changed to $2.34 per hour on September 1, 1959.

9. Conditions other than noted above will conform with signed agreements. (Effective 9/1/59)

Removing a snow slide on Middle Fork of Flathead River. Picture by Hungry Horse News, Columbia Falls, Montana.

MAINTENANCE EXPENDITURES

ITEM NO.	ITEM DESCRIPTION	FISCAL YEAR				
		1958-59		1959-60		BIENNIUM
	Gneral Maintenance					
1.	General Maintenance—All Items except 2 and 3	$3,636,309.58		$3,893,025.11		$ 7,529,334.69
2.	Snow Removal	717,378.10		622,832.17		1,340,210.27
3.	Sanding	521,934.58		559,526.67		1,081,461.25
	Sub-Total Gen. Maint. Less Overhead	$4,875,622.26		$5,075,383.95		$ 9,951,006.21
4.	**Special Maintenance—Less Overhead**	$ 131,953.89		$ 93,117.35		$ 225,071.24
5.	**Betterments—Less Overhead**	$ 752,285.99		$ 788,588.07		$ 1,540,874.06
	Overhead Charges					
6.	Annual Leave and Sick Leave	$ 253,297.98		$ 266,558.04		$ 519,856.02
7.	Retirement	132,101.20		139,469.54		271,570.74
8.	Social Security	107,248.22		103,366.23		210,614.45
9.	Supervision	236,353.15		241,340.35		477,693.50
10.	Industrial Accident Insurance	85,136.82		79,739.02		164,875.84
11.	Administration—Helena Shop	50,067.97		50,362.20		100,430.17
12.	Gasoline Distribution	14,569.91		4,719.66		19,289.57
13.	Insurance on Maint. Buildings and Stores	659.71		544.34		1,204.05
14	Upkeep and Repair of Maintenance Buildings	33,769.98		22,467.38		56,237.36
15.	Upkeep and Repair of Shop Equipment	7,991.25		8,101.05		16,092.30
16.	Upkeep and Repair of Radio Facilities	52,126.90		67,704.60		119,831.50
	Sub-Total—Overhead Charges	$ 973,323.09		$ 984,372.41		$ 1,957,695.50
	Sub-Total—Road Maintenance Only Incl. Overhead	$6,733,185.23		$6,941,461.78		$13,674,647.01
	Stores Accounts—Increase or Decrease					
17.	Crushed Gravel	$ 74,418.90		$ 59,229.19		$ 133,648.09
18.	District Stores	**24,719.99**		74,531.68		49,811.69
19.	Equipment Stores	25,545.63		40,480.91		66,026.54
20.	Helena Stores	526.34		1,985.83		2,512.17
	Sub-Total Stores Increase or Decrease	$ 75,770.88		$ 176,227.61		$ 251,998.49
21.	**Equipment Account**					
	Rental Earned	**$1,798,877.70**		**1,865,172.25**		3,664,049.95
	Repair Costs	1,300,738.33		1,414,559.67		2,715,298.00
	Purchases	499,684.98		532,285.94		1,031,970.92
	Sub-Total—Rental Excess or Deficit	$ 1,545.61		81,673.36		83,218.97
	Capital Asset Building Accounts					
22.	New Bldgs., Storage, Weighing Stations, etc.	$ 226,168.29		$ 229,313.75		$ 455,482.04
23.	New Fuel Oil Facilities and Repairs	6,204.18		11,634.14		17,838.32
24.	New Road Oil Facilities and Repairs	3,149.88		10,845.79		13,995.67
25.	New Shop Tools	9,775.60		9,030.61		18,806.21
26.	New F. M. Radio Stations	1,140.00		32,599.16		33,739.16
	Authorized Shop Expenditures Not Distributed	3,974.60		14,539.64		18,514.24
	Sub-Total—Capital Asset Building Accounts	$ 250,412.55		$ 307,963.09		$ 558,375.64
	Miscellaneous					
27.	Weighing	$ 93,887.48		$ 94,874.12		$ 188,761.60
28.	Port of Entry Stations—Operation	3.00				3.00
29.	Miscellaneous Refunds Due	**32,833.56**		**33,286.13**		**66,119.69**
30.	City and County Non-Reimbursable			1,036.18		1,036.18
31.	Secondary Road Maintenance	4,908.07		11,794.53		16,702.60
	Sub-Total Miscellaneous	$ 65,964.99		$ 74,418.70		$ 140,383.69
	Total Cash Outlay—Maintenance Expenditures	$7,126,879.26		$7,581,744.54		$14,708,623.80
			6-30-58		**6-30-60**	
	Store Value of Items 17, 18, 19 and 20		$2,605,115.93		$ 2,738,764.02	
			451,680.28		501,491.97	
			330,462.26		396,488.80	
			38,386.24		40,898.41	
			$3,425,644.71		$ 3,677,643.20	

NOTE—Bold face indicates credits or negatives.

MAINTENANCE EXPENDITURES
BY WORK ORDERS (INCLUDING OVERHEAD)
GENERAL MAINTENANCE, SPECIAL MAINTENANCE and BETTERMENTS

Work No.	Work Description	Fiscal Year		
		1958-59	1959-60	Biennium
11	Dirt Surface	$ 14,318.24	$ 18,115.60	$ 32,433.84
12	Gravel Surfaces	22,692.96	21,876.22	44,569.18
13	Concrete Surfaces	5,736.91	3,444.15	9,181.06
14	Oiled Surfaces	2,777,380.15	2,998,626.81	5,776,006.96
19	Damages by Travelling Public	3,184.55		3,184.55
21	Shoulders and Approaches	145,592 00	148,206.06	293,798.06
22	Slopes, Ditches and Small Drainage	455,192.79	404,798.22	859,991.01
23	Sidewalks and Footpaths, except on Bridges	8.40	....	8.40
24	Right-of-way Markers and Fences	1,396.59	303.28	1,699.87
25	Weed Removal-Mowing and Hand Tools	185,896.41	229,617.18	415,513.59
26	Major Slide Removal and Washout Repair	36,722.24	26,094.31	62,816.55
27	Weed Control: Chemical	61,200.31	71,749.36	132,949.67
28	Embankment Widening	19,925.16	11,953.12	31,878.28
29	Channel Change and Cleaning	4,199.53	2,936.32	7,135.85
31	Minor Structures: Bridges Under 20 feet and Culverts over 16 sq. ft. Area	39,192.75	3,157.84	42,350.59
32	Major Structures: Over 20 feet	41,234.29	63,938.07	105,172.36
33	Divider Curb	...	386.14	386.14
38	Underpasses	6,106.01	4,549.19	10,655.20
39	Riprap, Jetties and Miscellaneous Structures	7,098.72	15,145.66	22,244.38
40	Detours	1,951.83	7,886.35	9,838.18
41	Guard Rail and Guide Posts	48,026.79	32,549.99	80,576.78
42	Signs and Signals	154,357.08	166,196.64	320,553.72
43	Historic Markers	6,560.67	5,377.59	11,938.26
44	Beautification of Campsites	11,516.97	12,625.22	24,142.19
45	Traffic Lines	185,158.20	200,365.22	385,523.42
46	Snow Removal	836,659.28	724,138.25	1,560,797.53
47	Snow Fence	81,602.89	89,811.48	171,414.37
48	Sanding	608,718.41	650,535.86	1,259,254.27
49	Roadside Camps	11,372.58	11,330.22	22,702.80
52	Rentals, Light, Heat, Power, Telephone	71,721.07	82,716.83	154,437.90
53	Maintenance of Yards	22,379.86	24,481.15	46,861.01
57	Weighing Trucks, Trailers, etc.	109,498.51	110,305.77	219,804.28
60	Grading: Widening Base Course Gravel	17,375.72	8,024.16	25,399.88
70	Gravelling: Top Course	170,778.80	226,756.22	397,535.02
80	Oiling: Penetration, Tight Blade and Road Mix	306,226.04	355,283.40	661,509.44
90	Oiling: Seal Coat	356,090.00	303,054.02	659,144.02
		$6,827,072.71	$7,036,335.90	$13,863,408.61

STATEMENT SHOWING TOTAL COST PER MILE, INCLUDING OVERHEAD, FOR GENERAL MAINTENANCE, SPECIAL MAINTENANCE AND BETTERMENTS

Division Number	Location	FISCAL YEAR 1958-59			FISCAL YEAR 1959-60		
		Miles Maintained	Total Cost	Cost Per Mile	Miles Maintained	Total Cost	Cost Per Mile
101	Missoula	664	$1,098,794.28	$1,654.81	664	$1,176,802.34	$1,772.29
102	Kalispell	475	689,547.28	1,451.68	476	742,616.47	1,560.12
201	Butte	509	692,198.32	1,359.92	525	734,879.27	1,399.77
202	Bozeman	554	578,035.42	1,043.39	553	583,152.19	1,054.52
301	Great Falls	658	1,053,470.69	1,601.02	658	981,183.32	1,491.16
302	Havre	432	496,018.22	1,148.19	432	535,049.67	1,238.54
401	Glendive	368	295,147.22	802.03	386	339,453.53	879.41
402	Wolf Point	559	455,880.86	815.53	530	419,170.54	790.89
403	Lewistown	383	332,634.81	868.50	409	348,518.48	852.12
501	Billings	613	630,180.49	1,028.03	613	657,936.16	1,073.31
502	Miles City	570	505,165.12	886.25	570	517,573.93	908.02
	ALL STATE	5,785	$6,827,072.71	$1,180.13	5,816	$7,036,335.90	$1,209.82

RECORD OF EQUIPMENT PURCHASED DURING BIENNIUM AND EQUIPMENT INVENTORY AS OF JUNE 30, 1960

	Purchased		Trade-In & Salvage		Net Cost	Inventory 6-30-60	
	No.	Value	No.	Value		No.	Value
Passenger Cars	41	$ 84,813.94	29	$ 13,609.05	$ 71,204.89	79	$ 79,584.39
Jeeps	15	7,776.74			7,776.74	15	5,832.60
Trucks: Pickups	57	98,780.52	44	18,190.84	80,589.68	158	113,942.01
Suburbans	22	46,909.93	13	5,280.73	41,629.20	126	85,275.76
Panel & Sedan Delivery	18	35,634.99	13	4,928.41	30,706.58	73	49,664.41
Light Stake Bodies	2	1,318.20	2	422.21	895.99	5	1,288.38
4 x 4 Cargo 1½ ton			2	490.00	490.00*	10	336.59
Pickups 4-wheel drive						1	922.12
1½ to 2-ton 4-wheel drive			1	175.00	175.00*	3	528.10
2 to 3-ton 4-wheel drive			2	4,050.00	4,050.00*	12	2,980.11
3 to 4-ton 4-wheel drive	1	6,113.77	6	16,763.77	10,650.00*	46	63,764.56
4 to 5-ton 4-wheel drive	5	71,420.50	2	4,618.76	69,801.74	8	70,035.59
5 to 6-ton 4-wheel drive			2	9,600.00	9,600.00*	13	37,137.71
6 to 7 ton 4-wheel drive	2	38,725.75			38,725.75	18	14,472.96
3 to 4 ton 6 wheel drive	4	10,930.57			10,930.57	4	9,291.84
2-ton Dumps, 2-wheel drive	78	252,921.03	89	41,961.18	210,959.85	265	342,936.49
2 ton Stakes 2 wheel drive			2	1,185.00	1,185.00*	13	4,069.06
2-ton Chassis 2 wheel drive			1	400.00	400.00*	3	1,818.97
3-ton Dumps 2 wheel drive	27	122,740.74			122,740.74	82	159,488.85
5-ton Chassis 2-wheel drive	1	2,086.98			2,086.98	3	2,016.25
Motor Patrols	5	62,888.15	1	4,722.00	58,166.15	124	279,552.62
Rollers—Self-propelled	3	16,251.19	3	960.00	15,291.19	22	42,895.07
Brooms, Tractor Type	1	719.08	3	1,842.50	1,123.42*	1	21.79
Sweeper						1	857.71
Tractors, Wheel Type						5	1,050.64
W/Loaders ⅜ & ⅓ yd.	5	8,320.82	5	4,001.87	4,318.95	37	15,743.34
W/Loaders ½ yd.	2	5,070.00	2	2,550.00	2,520.00	16	8,437.33
W/Loaders ⅝ yd.						5	8,388.31
W/Loaders ¾ yd.	5	18,259.02	3	3,120.25	15,138.77	23	38,970.70
W/loaders 1 yd	1	11,285.00			11,285.00	11	16,265.17
W/Loaders 1⅛ yd	4	46,000.00			46,000.00	4	38,331.80
W/Mowers	11	23,934.57	9	5,015.78	18,918.79	29	35,235.28
W/Loaders & Mowers	6	14,559.28	5	1,946.15	12,613.13	11	35,270.86
Shovels: Gas ⅓ yd.						2	1,558.37
Gas ⅜ yd.						4	3,792.48
Gas ½ yd.			1	3,826.40	3,826.40*	3	1,002.10
Gas ¾ yd.			1	7,600.00	7,600.00*	2	195.74
Tractors: Crawler Type 55-65 HP						2	137.17
Crawler Type, over 65 HP	2	5,751.61	2	3,226.00	2,528.61	5	11,360.52
Loaders Athey Bucket						3	855.71
Pulvi Mixer Self-propelled						1	6,646.20
Spreadmaster Flaherty	1	11,775.00			11,775.00	2	18,743.75
Graders—Pull type			2	451.00	451.00*	1	20.66
Rollers—Pull type	1	1,793.25	3	2,290.00	496.75*	8	3,488.56
Brooms—Pull type	4	5,493.00	3	416.00	5,077.00	27	7,259.81
Team Patrols						16	32.59
Rooter						1	5.80
Pulvi Mixers—Pull type						14	12,949.21
Snow Plows: 1-way Rigid	34	27,862.87	18	1,164.33	26,698.54	308	75,080.35
1-way Reversible	4	3,746.83	11	638.36	3,108.47	45	14,364.22
Light V			5	413.76	413.76*	18	2,522.96
Heavy V	2	2,525.45	2	56.07	2,469.38	26	5,982.31
SnowGo's & Rotary						23	19,401.18
Sand Spreaders	37	28,602.08	12	78.49	28,523.59	137	42,029.60
Salt Spreaders	3	2,185.50			2,185.50	11	3,936.46
Sand Spreaders—Self-unloading	3	5,381.86			5,381.86	8	10,582.32
Power Plants—Snow Go & Rotary						23	15,751.61
Snow Wings	8	17,739.32	10	1,119.80	16,619.52	78	36,502.80
Bulldozers	1	225.00	2	876.00	651.00*	5	517.10
Scraper						1	176.10
Dragline Attachment (Shovel)						1	167.88
Power Plant—Crusher						1	1,585.65
Crusher						1	1,205.73
Trailers: Light	6	11,204.98	1	1,021.00	10,183.98	30	8,693.87
8-15 ton	1	1,507.63	2	550.00	957.63	10	7,208.64
20-25 ton	1	5,143.00	1	1,300.00	1,113.00	13	14,717.71
30 ton						2	1,914.55
House						12	186.45
Distributors: 1200 to 1500 gal.						18	16,345.81
2000 to 4000 gal.	1	8,680.25	1	1,435.25	7,245.00	17	2,435.83
Spray Units	8	17,290.28	7	2,803.14	14,487.14	128	44,553.37
Tar Pot Own Make						1	3.06
Pumps Oil						4	27.94
Chip Spreaders	1	2,020.00	1	400.00	1,620.00	12	4,245.18
Stripers—Traffic Line						3	7,495.08
Earth Boring Machines						8	20,176.24
Core Drills	2	30,845.69			30,845.69	3	30,068.16
Cement Mixers						3	21.59
Compressors			1	231.00	231.00*	4	3,495.85
Weed Sprayers						14	1,182.28
Boilers						3	25.60
Tank Car Heaters						10	1,116.67
Scales—Loadmeters						59	153.25
Screening Plants						2	3,306.27
Asphalt Plants						3	32,146.48
Tailgate Mixers	4	6,757.10			6,757.10	6	8,616.05
Snow Bug						1	1,134.73
Weasels						3	2,413.26
Tank Gasoline						1	978.12
Barge						1	2,187.06
New Cost Equipment		$1,190,324.77		$ 175,730.10	$1,014,594.67		$2,139,412.64
Addition, Conversions, Accessories, Surplus					17,376.25		
Total					$1,031,970.92		

Note: Figures with asterisks are credits or negatives.

NEW FACILITIES PROVIDED DURING BIENNIUM

JULY 1, 1958 TO JUNE 30, 1960

1—New 60′ x 28′ Section house near Fred Robinson Bridge on Montana 19.

1—New office and shop building at Great Falls.

1—40′ x 384′ Metal equipment storage building at new Great Falls site.

1—40′ x 96′ Metal laboratory, storage and welding building at new Great Falls site.

1—40′ x 40′ Metal cleaning and paint building at new Great Falls site.

1—24′ x 24′ Metal gas and oil storage at new Great Falls site

1—40′ x 40′ Salvage material sand storage building at Elmo.

1—28′ x 56′ Metal storage building at Missouri River site on Montana 19 north of Roy.

1—16′ x 32′ Salvage material storage building at Missouri River site north of Roy.

1—50′ x 100′ Used metal building (R/W purchase) for storage at Shelby.

1—32′ x 48′ Metal 3-stall garage at St. Mary.

1—28′ x 36′ Used metal building moved to new site at St. Mary.

1—20′ x 36′ Metal laboratory building at Miles City.

1—28′ x 36′ Metal garage at Richey.

2—32′ x 20′ Metal storage building for stakes and supplies at Havre and Lewistown.

1—Wood two-room addition to section house at Boyes.

1—40′ x 40′ Salvage material building for sand storage at Troy.

1—28′ x 32′ Shed converted to testing laboratory at Kalispell

5—10′ x 12′ Metal tool storage buildings, one each at Roundup, Columbus, Hardin, Lodge Grass and Custer.

2—6′ x 8′ x 8′ Metal gas houses, one each at Augusta and Niehart.

3—6,000 gal. heated road oil tanks, one each at Clearwater, Missouri River and Busby.

2—30-ton axle scales for weigh station near Kalispell and Culbertson.
—Move Glendive weigh station and scales to new site.

1,227,184 tons of gravel and 47,998 tons of sanding material were produced during the biennium. Of this amount 985,250 tons were produced by contract and 289,932 tons by our own crusher crew.

SUMMARY OF MAINTENANCE COSTS

	Fiscal Year 1958-59	Fiscal Year 1959-60
General Maintenance (Direct Charges)		
All Items (Except Those Following)	$3,636,309.58	$3,893,025.11
Snow Removal	717,378.10	622,832.17
Sanding	521,934.58	559,526.67
Sub-Total Gen. Maint. (Direct Charges)	$4,875,622.26	$5,075,383.95
Special Maintenance		
Resurfacing	$ 29,118.23	$ 22,061.21
Grading and Base	6,790.80	2,276.99
Slides, Washouts, and Drainage and detours	63,378.79	41,990.54
Bridges: Repair and Replacements	28,300.30	10,739.99
Guard Rail and Guide Posts	4,365.77	908.00
Right-of-Way Fence		2,505.13
Miscellaneous Structures		10,176.40
Snow Fence		2,276.81
Camp Sites		110.28
Sub-Total Special Maintenance	$ 131,953.89	$ 93,117.35
Betterments		
Resurfacing	$ 151 457.31	$ 201,501.52
Grading and Base	8,107.69	6,901.59
Oiling: Oil Mat. Including Tight Blade, Etc.	262,567.97	305,579.67
Oiling: Seal and Cover	305,322.93	260,657.12
Slides, Washouts and Drainage	1,001.79	276.00
Bridges: Repair and Replacements	2,720.06	1,984.47
Guard Rail and Guide Posts	4,023 78	1,421.22
Gravel Shoulders and widening		10,266.48
Miscellaneous Structures	17,084.46	
Sub-Total Betterments	$ 752,285 99	$ 788,588.07
Indirect Charges (Overhead)		
Annual Leave	$ 253,297 98	$ 266,558.04
Supervision	236,353.15	241,340.35
Industrial Accident Insurance	85,136.82	79,739.02
Administrative Expense—Helena Shop	50,067.97	50,362.20
Gasoline Distribution	11,569.91	4,719.66
Insurance: Bldgs., Stores, Rented Equip.	$ 659.71	$ 541.34
Upkeep and Repair of Maintenance Buildings	33,769.98	22,467.38
Upkeep and Repair of Shop Equipment	7,991.25	8,101.05
Radio Upkeep and Repair	52,126.90	67,704.60
State Paid F.I.C.A. Assessment	107,248.22	103,366.23
State Paid Retirement Premiums	132,101.20	139,469.54
Sub-Total Indirect Charges	$ 973,323.09	$ 984,372.41
Sub-Total Road Maintenance Only	$6,733,185.23	$6,941,461.78
Capital Assets Accounts		
Stores Accounts	$ 75,770.88	$ 176,227.61
New Buildings, Storage, Sand Houses, Etc.	226,168.29	229,313.75
New Radio Installations	1,140.00	32,599.16
New Fuel Storage Facilities	6,204.18	11,634.14
New Oil Storage Facilities	3,149.88	10,845.79
New Shop Tools	9,775.60	9,030.61
Authorized Shop Expenditures Not Distributed	3,974.60	14,539.64
Sub-Total Capital Assets	$ 326,183.43	$ 484,190.70
Equipment Rental (Deficit or Credit)	$ 1,545.61	$ 81,673.36
Tourist Courtesy Stations	$ 3.00	
Miscellaneous Minor and Holding Accounts	4,908.07	
Miscellaneous Refunds Due	32,833.56*	33,286.13*
City and County Non-Reimbursable Including Secondary		12,830.71
Weighing (Load Limit Enforcement)	93,887.48	94,874.12
Total Cash Outlay Against Maint. Budget	$7,126,879.26	$7,581,744.54
Mileage Maintained	5,785	5,816
Average Cost Per Mile		
General Maintenance Incl. Overhead	$ 985.22	$ 1,016.86
General and Special Maint. Incl. Overhead	1,011.89	1,035.52
General, Special and Betterments Including Overhead	1,163.90	1,193.51
Overhead Percentage Factor	16.90	16.52

NOTE—Asterisks indicate credits or negatives.

STORES ACCOUNTS

	6-30-59	6-30-60
Equipment Stores Account	$ 356,007.89	$ 396,488.80
District Stores Account	426,960.29	501,491.97
Helena Shop Stores Account	23,263.28	25,774.36
Miscellaneous Minor Stores Account	15,649.30	15,124.05
Crushed Gravel Stores	2,679,534.83	2,738,764.02
TOTALS	$3,501,415.59	$3,677,643.20

EQUIPMENT ACCOUNTS

	Fiscal Year	
	1958-59	1959-60
Equipment Rentals Earned—Fiscal Year	$1,798,877.70	$1,865,172.25
Equipment Repair Costs—Fiscal Year	1,300,738.33	1,414,559.67
Rentals—Excess over Repairs—Fiscal Year	498,139.37	450,612.58
Rentals—Excess over Repairs—Accumulative	7,868,315.91	8,318,928.49
New Equipment Purchased—Fiscal Year	499,684.98	532,285.94
New Equipment Purchased—Accumulative	7,356,159.30	7,888,445.24
Depreciation—Fiscal Year	489,242.72	493,028.06
Depreciation—Accumulative	5,945,128.04	6,438,156.10
Credit or Deficit		
(Rentals Less Repairs) over Depreciation—Fiscal Year	8,896.65*	42,415.48*
(Rentals Less Repairs) over Depreciation—Accumulative	1,923,187.87*	1,965,603.35*
(Rentals Less Repairs) over Purchases—Fiscal Year	1,545.61	81,673.36
(Rentals Less Repairs) over Purchases—Accumulative	512,156.61*	430,483.25*

NOTE—Asterisks indicate credits or negatives.

Planting Grass Seed and Fertilizer by blower.

View of Interstate Highway No. 90 (U. S. Highway No. 10) about two miles west of Springdale on the Yellowstone River.

REPORT OF VARIOUS COMPONENTS

The State Highway Commission has delegated its operational functions to the State Highway Engineer, who is in charge of an organization of personnel commonly known as the Montana Highway Department. Attention in this respect is directed to the Organization Chart shown on Page 12. The Highway Attorney and the Commission's Secretary are not under the jurisdiction of the State Highway Engineer with the exception that some of the Attorney's staff work with and for the Right-of-Way Engineer. The Department is, in turn, sub-divided into branches, divisions, sections and units for numerous functional purposes.

Each of these various categories is headed by a person trained and experienced in his duties, functions and responsibilities. Preceding reports have concerned the Construction and Bridge Engineers, the Maintenance Engineer, the Right-of-Way Engineer, the Chief Accountant and the Personnel Officer. The following narration concerns the other categories of the Department. The design aspect of the Bridge Engineer's functions are set forth in this report.

HIGHWAY ATTORNEY

The duties and functions of the Highway Attorney and staff involve legal research pertaining to all matters having to do with the operations of the Commission and may result in the conduct of litigation in trial and district courts. General matters are handled on his own initiative, but matters of special importance may be subject to review by the Attorney General's office.

Some illustrative examples are:

Act as legal adviser to the Commission and Department, rendering oral and written legal interpretations and opinions.

Institute legal proceedings on behalf of the Commission as authorized.

Represent the Commission in court.

Prepare required legal documents of various types appropriate to matters of concern to the Commission.

Prepare materials pertaining to proposed legislation.

Search for, interpret and apply laws, court decisions, and other legal authorities in preparation of briefs and other legal papers in connection with suits, trials and other proceedings.

Act as special representative for the Attorney General's office on pertinent cases.

Draft tentative rules and regulations and review rules and regulations and bulletins prepared by Administrative officers for conformity to the law.

COMMISSION SECRETARY

The Secretary to the Commission is responsible for all records and "Minutes" necessary to adequately record the various Highway Commission proceedings. It is his responsibility to keep the Commission informed at all times regarding developments and business pertinent to the monthly meetings; to be present and record all contract awards and prepare those contracts for completion by the contractor, surety and insurance agent; to protect the State of Montana, at all times, through a complete insurance system whereby all contractors provide adequate insurance to the State of Montana. It is the duty of the Secretary's office, upon completion of the construction projects, to advise the surety involved. It also is necessary to maintain a close contact with all Districts from the start to the completion of construction projects.

BRIDGE ENGINEER

The Bridge Engineer, besides being concerned with location and construction of bridges, is responsible for the design and preparation of plans and specifications for all bridges, railway-highway grade separations, highway-highway grade separations, interchange structures, machinery passes, and some buildings and miscellaneous structures. This involves preliminary studies to determine the location of structures, foundation conditions, waterway areas and railway or highway requirements.

After the preliminary studies have been completed, various layouts are prepared that will fulfill all requirements. These layouts are reviewed, cost estimates prepared, and the most economically feasible structure selected. These data are the basis from which designs are made and contract plans and specifications are prepared.

Each of the various components of the structure is designed to safely support the traffic load, its own weight and all other forces to which it may be subjected during the life of the structure. From these design calculations and sketches, detailed plans are prepared for the various parts of the structure. These plans are checked, reviewed, and the quantity of the various materials required for the structure determined.

After the award of contract, construction is supervised by the District Office under the general supervision of the Bridge Engineer. During construction the Bridge Engineer reviews and approves all shop drawings of fabricated material for compliance with the plans and specifications.

In addition to the above functions, the Bridge Engineer reviews all structures that are to be used in place on the highway systems and analyzes the effect on structures of overloads or unusual equipment that will move over any of the systems. He also acts in an advisory capacity, when so requested, to the various counties relating to their bridge problems. Plans and specifications also are prepared for the repair of damaged structures and for improvements on State Parks properties such as buildings, camp grounds, wells, etcetera.

The Bridge Engineer must be alert for the latest developments in bridge design, construction materials and design and construction techniques. One of the recent developments has been the use of precast, prestressed concrete beams which have, to a degree, replaced conventional steel beams in many of the shorter spans. The precast, prestressed concrete beams reflect a slight saving in cost and are generally fabricated within the State whereas steel beams generally are fabricated outside of the State.

PUBLIC INFORMATION COORDINATOR

The Public Information Coordinator is responsible for the dissemination of all information concerning the operations of the Highway Department to the general public, other agencies, and within the Department itself. Newspapers, magazines, radio, television and personal appearances are utilized to accomplish this purpose. Such aids as photographs, models and artwork also are used in demonstrating highway work and accomplishments.

Attendance at meetings, conventions, public hearings and conferences is part of the duties of the Public Information Coordinator. He works as a liaison with groups sponsoring dedications and other celebrations.

All information regarding the highway department and system is routed through this office in order to avoid duplication of news or the issuance of erroneous stories by improperly informed persons.

SAFETY COORDINATOR

The Safety Coordinator is charged with devising such rules, regulations and procedures as will assure that all personnel of the Department perform their duties and otherwise operate in such manner that the risk of injury or fatality is held to an absolute minimum. Personnel of this section work in and through the various divisions and sections of the Department, as well as all field offices. SAFETY is the byword of this operation.

TECHNICAL ENGINEER

The Technical Engineer is the general supervisor over Pre-construction and Construction functions, Interstate Highway planning, Materials testing and records, Specifications preparation and Project Control. The Technical Engineer is primarily concerned with the pre-construction aspects of the highway system and with the construction phase of the roadway portion of the highway. The functions of each of the various segments of the Department under his charge are described in the following paragraphs. His advice and authority are called upon by other segments of the Department as occasion demands.

MATERIALS ENGINEER

The function of the Materials Engineer, and staff, is to plan, organize, direct and perform activities related to testing, analyzing and investigating construction and maintenance materials. He has the facilities and personnel to conduct the routine tests necessary to determine whether the specification requirements are being met by the various materials used in highway construction from the subgrade on which the road is to be built to the finished riding surface.

Prior to the letting of a contract, these personnel investigate the quality and quantity of aggregate materials available for the project and, by means of soil surveys, determine the type of subgrade materials which will be encountered. If circumstances indicate the necessity, an extensive study of the proposed line will be conducted, including core drilling of structure foundations, cuts, fills, possible slide areas and other problems that may arise. After the contract has been let, control tests are run on every item of construction. These items include such varied materials as gravel, cement, asphalt, paint, fencing materials, signs, grass seed, water, wire and many others. This testing assures that all of the specifications on the project are being met.

Tests conducted on aggregate materials include gradation, specific gravity, wear, liquid limit, plasticity index, and volume swell; additional tests performed on concrete aggregate include alkalai reactivity, air content, compressive strength, and durability. Tests on asphaltic material include viscosity, ductility, melting point, flash point, and several others. It is necessary to determine mix designs for both Portland cement concrete and asphaltic concrete on the basis of the above tests plus strength and durability considerations. Additional tests are run on a variety of materials such as gasoline, anti-freeze, etc., for quality control.

To the limited extent that time, equipment and qualified personnel are available, the Materials Engineer also conducts research to improve the quality of road materials, to develop new or improved testing procedures, and to obtain satisfactory performance from presently substandard materials. Research methods include laboratory studies, experimental highway sections, and behavior studies. Projects now under vestigation include lightweight concrete aggregate and aggregate-asphalt bonding.

The Materials Engineer is constantly beset by new problems resulting from a wide diversity of materials and the geologic complexity of the State. As the amount and availability of high quality road material in the State decreases, and our highways are required to carry more and heavier traffic, this type of work will become an increasingly more important part of Montana's highway program.

During this biennium the Helena Laboratory processed some 29,700 samples of materials with an average of six tests being required per sample. The costs of testing about 23,700 of those samples were eligible for Federal-aid. The total Laboratory charge against that number of samples was about $495,800 and the Federal-aid amounted to about $371,800. These samples represented both preconstruction and construction operations.

PRECONSTRUCTION ENGINEER

The Preconstruction Engineer is the chief administrator for all preconstruction phases of development of the highway system. His functions concern planning, programming, preliminary engineering, financing and design. He has direct supervision over the Road Plans, Paving, Hydraulics and Traffic Engineers. He serves as adviser to District Engineers and various Department heads. Some of his duties are to: forecast a program of projects for future lettings; authorize preliminary engineering and right-of-way procurement operations; process requests for maps, plans and other information. He is generally responsible for handling correspondence concerning preconstruction operations and attending necessary meetings and hearings. He must be conversant with State and Federal laws and regulations relative to highways and their financing.

ROAD PLANS ENGINEER

The functions and duties of the Road Plans Engineer are to design highway projects in all their aspects, with the exception of bridges and other major structures, following the policies and standards as laid down by the Highway Commission. The geometric design, width, rates of slopes, widths of ditches, grade lines, size and types of culverts and minor structures and types and depths of surfacing materials are all based on information and recommendations provided by other divisions and sections of the Department. Data shown on the plans must be as accurate as possible. Information must be coordinated with other segments of the Department. The final plans must be approved by the Bureau of Public Roads prior to being let to contract.

PAVING ENGINEER

The Paving Engineer reviews and studies the reports and analyses of materials from which the highway surfacing and pavement will be constructed. He then analyzes all such available data and, in accordance with established procedures, determines surfacing thicknesses and special types, type of materials to be used and any other feature within his authority. He is further guided, in many cases, by recommendations of engineers in the field or on the site of the project.

HYDRAULIC ENGINEER

The Hydraulic Engineer is concerned with the drainage, via minor structures, of the highway system. He works from information provided by field surveys, drainage maps, aerial photographs, weather records and other pertinent sources. His function is to determine the proper size of drainage structure, neither too large nor too small, to adequately drain the area in question. He also develops standards for design purposes. All of his recommendations are directed to the Road Plans Engineer.

TRAFFIC ENGINEER

The Traffic Engineer is charged with and is responsible for: development of designs which will build safety into traffic problems; devising interchanges and highway intersections, entrances and exits, so that motor vehicle traffic can attain destinations at a minimum of inconvenience; preparation of standard designs and specifications for signs, signals, lighting and other traffic guidance devices; making and reporting on investigations of traffic problems; making studies for layouts of speed zones on the highway system. He and his staff must be in constant contact with design and operations procedures of the Department; be on the alert for trends in development of traffic guidance devices; be ready to assist municipalities and counties with traffic problems; render assistance and advice whenever and wherever necessary, subject to approval of higher authority.

INTERSTATE ENGINEER

The Interstate Engineer has in charge the preconstruction engineering phases of the highway program as they pertain to the Interstate System.

His functions are to develop and maintain an overall program and schedule of projects involved in completing the system; to establish routing locations subject to approval of proper authority, including attendant investigations and economic evaluations; to guide, control and coordinate location survey work from inception to completion; develop the proper design for each project; prepare information and data for and take part in public hearings concerned with Interstate System projects; plan and supervise aerial photography projects and the development of data through photogrammetry; supervise preconstruction engineering work, concerning the Interstate System, contracted to consulting engineers and maintain an adequate liaison.

He must be in constant contact, and coordinate his activities, with other Highway Department personnel and with the public in general.

PROJECT CONTROL ENGINEER

The Project Control Engineer is charged with the responsibility of maintaining current knowledge of financing policies; developing and maintaining a close coordination of all persons concerned in pursuing projects to the contract stage; coordinating the determination of bid letting dates; assuring that every phase in the development of a project, from inception to letting, adheres to preconceived schedule; providing solutions for delays in meeting schedules; assisting in solving administrative problems in meeting schedules; justification or censure for delays in meeting target schedules; devising and implementing procedures for adherence to flow patterns of development; maintaining and reporting positive status of project development, by use of prescribed reporting methods, as shall be administratively required.

SPECIFICATIONS ENGINEER

It is the principal function of the Specifications Engineer to write, assemble and make available, to potential users, the specifications which govern the construction of highway projects let to contract. Specifications are prepared from standard practices, data from other agencies, recommendations of engineers working on projects, materials laboratory, suppliers and the like. All such specifications must be coordinated with various segments of the Department and be approved by the Bureau of Public Roads.

ADMINISTRATIVE ENGINEER

The Administrative Engineer is the general supervisor over Accounting, Office Engineering, Planning Survey, Training-in-Service, Data Processing, Data Reproduction, Office Services, Personnel, Secondary Roads and Gross Vehicle Weight operations. These components of the Department are concerned more with administrative matters than with engineering or technical matters. The functions of the various segments are described in the succeeding paragraphs.

OFFICE ENGINEER

He and staff act as department liaison with the Bureau of Public Roads. This function necessitates comprehensive knowledge of Federal and State Laws as well as Bureau of Public Roads procedures and practices.

They prepare the necessary documents for programming of all projects with the Bureau of Public Roads; make and submit preliminary estimates of costs of projects, and maintain adequate records and files of such instruments.

They prepare all documents to accompany construction plans for proposed contracts; compile, write and edit, as necessary, special provisions, bid sheets and other material pertinent to proposed contracts.

They disseminate plans and other information to the public and especially to material suppliers and contractors. This entails considerable work as contractors are issued plans either "live" or "informational." "Live plans" are ones that can be used for actual bidding purposes. During this biennium, a minimum of 39,600 sets of plans were issued by the Office Engineer to contractors, department employees and other interested parties. Two hundred and four projects were let to contract during that period of time.

The office is also charged with the distribution of standard drawings, bid tabulations, award sheets, standard specifications and invitation to bidders.

During this biennium the Office Engineer collected and submitted to the Chief Accountant a total of $45,355 for the services described above.

After bids have been read, extension of individual bids are made. This work has been eased by the use of electronic computers. This office now only checks items in discrepancy with the computers, thus making it possible to award projects in a matter of hours after their reading. Statistically, one letting (February 1960) had 3,591 extensions to be checked with error possibility in three places or 10,773 chances of error to be checked.

They also prepare "Project Agreements"—a billing to the Bureau of Public Roads for their share of costs of all projects let to contract. These costs entail not only the actual bid items, but others like right-of-way, materials, engineering and moving of utilities. This agreement estimate also is the guide to payment to the contractor for the work he performs at his bid prices.

SECONDARY ROADS ENGINEER

The Secondary Roads Engineer is charged with maintaining coordination between the Highway Department and the various County Commissioners as pertains to the location and construction of Secondary Roads (sometimes called "farm-to-market" roads).

Inasmuch as the routing, type of construction and priority of construction of such roads is a cooperative venture between the Bureau of Public Roads, the State Highway Commission, and the County Commissioners, it is very important that full and complete liaison be maintained at all times between the State Highway Department and the County Commissioners.

DATA PROCESSING ENGINEER

The Data Processing Engineer devises methods and operates such computers and tabulators, including attendant devices which will perform calculations and computations and tabulate the answers in an exceedingly rapid manner. This Division processes records, payrolls and reports for the accounting division, compiles statistical data for various components of the Department, and does computation and calculation work for earthwork design and construction projects and for bridge design. Generally speaking, computations and tabulations are made by this Division in about ten per cent. or less, of the time required by so-called hand methods, and with greater accuracy.

PLANNING SURVEY MANAGER

The Planning Survey Manager supervises a division of the Department which was created, in 1936, for the purpose of collecting and reporting various types of data which are essential for proper highway planning. The operations of this division are financed through the joint use of Federal and State funds. The current proportions amount to about 75 per cent Federal funds and 25 per cent State funds.

The activities of the division are divided into three principal categories: traffic, mapping and statistical.

The principal functions of the Traffic section are as follows:

> Collection of data concerning the volumes and types of vehicles using the State highway systems. Traffic counts are also taken on principal county roads and city streets which are not on the State highway systems. The traffic counts are obtained through the use of automatic counters at fixed locations, portable counters which are moved from point to point and visual counts recorded by employees.
>
> Annual speed studies which record the speed ranges of vehicles using the State highway systems.
>
> Annual loadometer surveys which record the weights of trucks and trailers using the State highway systems.
>
> Origin-destination studies which consist of roadside interviews for the purpose of gaining information concerning the characteristics of trips on the State highways.
>
> Urban studies which collect information concerning origins and destinations, internal counts and turning movements, parking characteristics and other material which is essential for urban transportation planning.
>
> Accident studies which present an annual record of the type, severity and cost of accidents on the Primary System.
>
> Tourist surveys which collect information concerning the number of tourists entering and leaving the State, points of entry and exit, length of stay, highway routings and expenditures.
>
> Miscellaneous traffic studies of various types when needed to develop specialized information.

The principal activities of the Mapping section include:

> Preparation of county mapping. This is the only known source of complete mapping of all counties in the State. Basic data for the mapping are obtained from aerial photographs and special mapping prepared by agencies such as the Forest Service, U. S. Geological Survey and the U. S. Coast and Geodetic Survey.
>
> Local road inventory, which is made by field crews, to verify the accuracy of preliminary mapping and to record the width and types of roads not on the State highway systems.
>
> Bridge inventory which records the dimensions, types and conditions of bridges on the State highway systems.
>
> Straight-line diagrams which report, in condensed form, necessary data concerning the projects on the State highway systems.
>
> City plats of all incorporated cities in the State. Vicinity maps are prepared for the major cities.
>
> Deficiency and priority ratings for projects on the Primary System. Such deficiency ratings are used for apportioning State highway construction funds to financial districts as required by State law.
>
> (County maps, city plats, charts and other drawings are available to the public upon payment of preparation costs. A total of $9,906 was collected during the biennium in this regard).

The following are the principal activities of the Statistical section:

> Preparation of an annual road log reporting data for each project on the State highway systems. Summary tables also group the mileage data by county, city, year built, type of project, and other categories of interest.
>
> Road Life Study which consists of a historical record of highway construction and maintenance betterments on each route of the State highway systems.
>
> An annual report of State highway receipts and expenditures in the form required for publication in national statistics of the Bureau of Public Roads.
>
> An annual report on road and street finances as they pertain to the cities and counties. This information is also used in national statistical summaries.
>
> Construction statistics of various types. Included is the amount of mileage and expenditures for construction contracts divided into highway system and financial district. A construction price index is also prepared which presents a historical record of the cost of the principal items used in highway construction.

In addition to the activities of the Traffic, Mapping and Statistical sections, the Planning Survey Manager is charged with the responsibility for preparing economic route studies. Such studies analyze and report the features of alternate highway locations so that the final decision may be made on the basis of factual data rather than judgment.

The Planning Survey Manager also conducts the public hearings which are held in connection with highway construction projects and prepares a written transcript of the proceedings.

The tables on Page 10 have been prepared by Planning Survey to show funds distribution for the various highway systems.

PROCESSING MACHINE SUPERVISOR

The Processing Machine Supervisor operates equipment which produces all needed copy such as plans for construction projects, copies of reports and certain maps, aerial photographs and the like. This section is equipped with cameras, copying equipment and so-called blue-print machines. All reports, copies of memoranda and general instructions, and other information for interdepartmental use, where numerous copies are required, are reproduced here. Documents such as bidding proposals, special provisions and plans for contracts, which would be extremely inconvenient and expensive to reproduce outside the department, are prepared within this section. Material for general distribution to the public is reproduced and/or printed outside the department, as a general rule.

OFFICE SERVICES SUPERVISOR

The Office Service Supervisor is in charge of the distribution of incoming and outgoing mail and the filing of correspondence and records of general interest to the Department. This section also conducts the microfilming (photographs of exceedingly small size) of all appropriate records in a space-saving effort. General records concerning all projects, from inception to completion, are maintained in this office. Detailed records, in many cases, are kept in some other offices when those offices deal with particular functions.

GROSS VEHICLE WEIGHT SUPERVISOR

The Thirty-Second Session of the Montana Legislature (1951) enacted Chapter 219 of the Laws of Montana to become effective January 1, 1952. (Chapter 53, Title 6, Replacement Volume 3 R.C.M. 1947 as amended). This act has become commonly known as the "Gross Weight Law." The original act was amended by the Legislative Assemblies of 1953, 1955, 1957, and 1959. Administration of the act was assigned to the State Highway Commission by the Legislature in 1951.

Revenue from the Gross Weight Law is collected on a calendar year basis—compatible with licensing. For this reason, vehicle counts and revenue figures in this report are based on the calendar year. Total Gross Revenue 1958, $3,052,933.36. Total Gross Revenue 1959, $3,453,421.53. The counties retained $152,646.88 in 1958 and $172,671.09 in 1959.
The Division has five distinct and separate operations:

1. Administration of the "Gross Weight Law."

(A) Financial Report. All fees collected under provisions of the act are remitted to the State Treasurer, for deposit in the Highway Fund, by the County Treasurers. The reports of the County Treasurers are compiled, audited and consolidated into one financial report reflecting the total collections made by the Counties.

(B) Temporary Trip Permits. Temporary Trip Permits, for out-of-state truckers only, are issued to County Treasurers, Highway Patrolmen and certain Highway Commission employees. Direct sales of Temporary Trip Permits for trucks and trailers are made through the Helena Office and by G.V.W. Patrolmen. These sales are audited by the Division and checked by the State Bank Examiner.

(C) Financial Stationery. A special receipt form is issued to the County Treasurers for the collection of miscellaneous fees aside from the sale of license plates. Contrary to the general conception of the collection of gross weight fees, a large portion of the fees collected are not collected at the time of license registration of a truck or trailer. Receipts were issued for $1,043,560.96 or 30.22 per cent of the total fees collected in 1959.

(D) G.V.W. Validating Plates. The 1955 session of the Legislature amended the "G.V.W. Law" to provide for the payment of fees for trucks and trailers, with a registered gross weight in excess of 24,001 pounds, by the calendar quarter. The amount of fees paid under quarters has been increased from $477,786.10 in the calendar year 1956 to $739,624.26 in the calendar year 1959. The identification of vehicles permitted to pay fees by the calendar quarter required the issuances of 19,593 validating plates in 1959. The collection of quarterly fees has been accomplished without the benefit of the registration records of the Registrar of Motor Vehicles.

(E) New Passenger Car Sales Tax. New Passenger Car Sales Tax is collected at the time of the original registration of a passenger car if the vehicle has not been otherwise taxed as a part of a dealer's stock. Sales tax schedules are prepared and furnished to all County Treasurers for each make and model of all new passenger cars, domestic and foreign. New Car Sales Tax, in the year 1952, paid on 17,111 new passenger cars was $318,991.66 or 17.79 per cent of the total fees collected. New Passenger Car Sales Tax paid in 1959 was $577,701.68 or 16.73 per cent of the total collections.

(F) Reciprocity and Proportional Payment of G.V.W. Fees. The free and unrestricted movement of Interstate Commerce into and through the State of Montana is extremely vital to the State's economy. The laws of Montana permit the drawing of reciprocal agreements or arrangements with other jurisdictions.

These agreements and arrangements are made by the State Reciprocity Board, consisting of five members appointed by the Governor. Two of the members represent the State Highway Commission. There are agreements or arrangements with all but nine States. In addition, arrangements have been made with two Provinces of Canada.

A Uniform Vehicle Registration Proration and Reciprocity agreement is in effect with the States of California, Colorado, Idaho, Iowa, Kansas, Missouri, Nebraska, Nevada, New Mexico, Oregon, and Washington. Additional proportional agreements are in effect with North Dakota, South Dakota, and Utah.

Each year proportional licensing (frequently called proration) has been in effect, the G.V.W. income to the State of Montana has increased. An identification fee of $2.00 is provided for each vehicle paying proportional fees. $30,242.00 was collected for 15,121 identification stickers issued in 1958. $35,404.00 was collected for 17,702 stickers issued in 1959. Identification fees from January 1, 1960 to July 1, 1960 total $51,090.00. Applications for proportional licensing are received and audited by the G.V.W. Division and forwarded to the County Treasurers for collection of the fees.

A fleet of vehicles may pay license fees in several Counties. therefore, it is necessary to maintain an account for each operator.

(G) Manuals and Forms. Manuals and forms are prepared and distributed for the use of County Treasurers, Highway Patrolmen, Highway Commission employees and the public for G.V.W. law regulations, Reciprocity, New Car Sales Tax, and Proportional Licensing.

(H) Enforcement. Through the cooperation of the Highway Patrol and the Highway Commission, there has been established a system of inspection of vehicles, other than passenger cars, known as the "G.V.W. Patrol." Each unit consists of a uniformed Highway Patrolman and one or two Highway Department employees. The G.V.W. Patrol covers the entire State in the inspection of resident and non-resident vehicles for compliance with the G.V.W. law, reciprocal agreements and proportional payment of fees.

During the calendar year 1959, the G.V.W. Patrol inspected more than 55,000 trucks and trailers. 2,312 adjustments were required to comply with the laws of Montana. 498 contacts were made for compliance with the quarterly G.V.W. law at places other than scalehouses or road blocks. In addition, the G.V.W. Patrol issues permits and inspects license requirements of circuses, carnivals, custom-combine operators, caravans and vehicles whose owners have requested assistance in the proper licensing of their vehicles.

2. The Highway Commission, as agent for the State Board of Equalization, through the G.V.W. Division, collects "Importers Gasoline Tax." (Chapter 174, Laws of 1955). Its duties are to:

(a) Account for taxes collected and force gasoline purchases in the State in lieu of payment of the tax

(b) Enforce reporting through inspection of vehicles by the roving crews and the Maintenance Division scalemen.

The following table reflects the effect of enforcement of the law. It shows Importers Gasoline Tax Fee and delayed-reporting Penalty Fee deposited with the State Board of Equalization for the period of July 1, 1958 through June 30, 1960.

	Tax	Penalty	Total
July 1, 1958 Through December 31, 1958	$14,340	$ 587	$14,927
January 1, 1959 Through December 31, 1959	22,566	1,049	23,616
January 1, 1960 Through June 30, 1960	8,752	482	9,234
Total Deposit	$45,658	$2,118	$47,777

The reason for the decrease in collections is that purchases have been increased at service stations in Montana due to enforcement of the law. Records are on hand to substantiate this condition.

3. Assists the State Board of Equalization by inspecting vehicles powered by fuel other than gasoline for Fuel User's Permits as required in Section 84-1833 (a).

4. Three-Unit Permits. A combination of tractor, semi-trailer and semi-trailer converted to a full trailer, semi-trailer and full trailer may operate on the highways of Montana by permission of the Highway Commission. The permit to operate the above combinations is issued by the G.V.W. Division. Permits were issued to 1,698 trailing units in 1959.

5. The G.V.W. Supervisor performs the duties of Secretary to the State Reciprocity Board.

DISTRICT ENGINEERS

The State has been divided into five areas for administrative and functional purposes. District Headquarters are at Missoula, Butte, Great Falls, Billings and Glendive. (See the map on Page 57). The Highway Department functions and operations in each area or district are under the authority of a District Engineer. He is the chief authority in the District, subject, of course, to Headquarters approval, and all operations, highway locations, construction projects, right-of-way procurement, highway maintenance and the like are subject to his approval. These men must maintain constant contact and knowledge of laws, regulations, established procedures and other practices of the Highway Department and the Bureau of Public Roads. They also are expected to be well acquainted with the general public in their respective areas and the desires and needs which develop from time to time.

Each of the five administrative districts is divided into two or three divisions under the jurisdiction of Division Engineers. Division headquarters are located at Kalispell, Missoula, Butte, Bozeman, Great Falls, Havre, Billings, Miles City, Glendive, Wolf Point and Lewistown. The Division Engineer, subject to District Engineer approval, is the highest authority in the Division. In some divisions there are two Division Engineers, dependent upon the work load—one being in charge of construction operations and the other in charge of maintenance operations. Other divisions have only one Division Engineer, he being in charge of both construction and maintenance. These men also are involved in highway locations, right-of-way matters and any other functions which may be delegated to them by the District Engineer.

These District and Division Engineers have in charge, and are responsible for the activities of engineers on location and construction projects, maintenance men along the various highway routes and personnel in offices and shops.

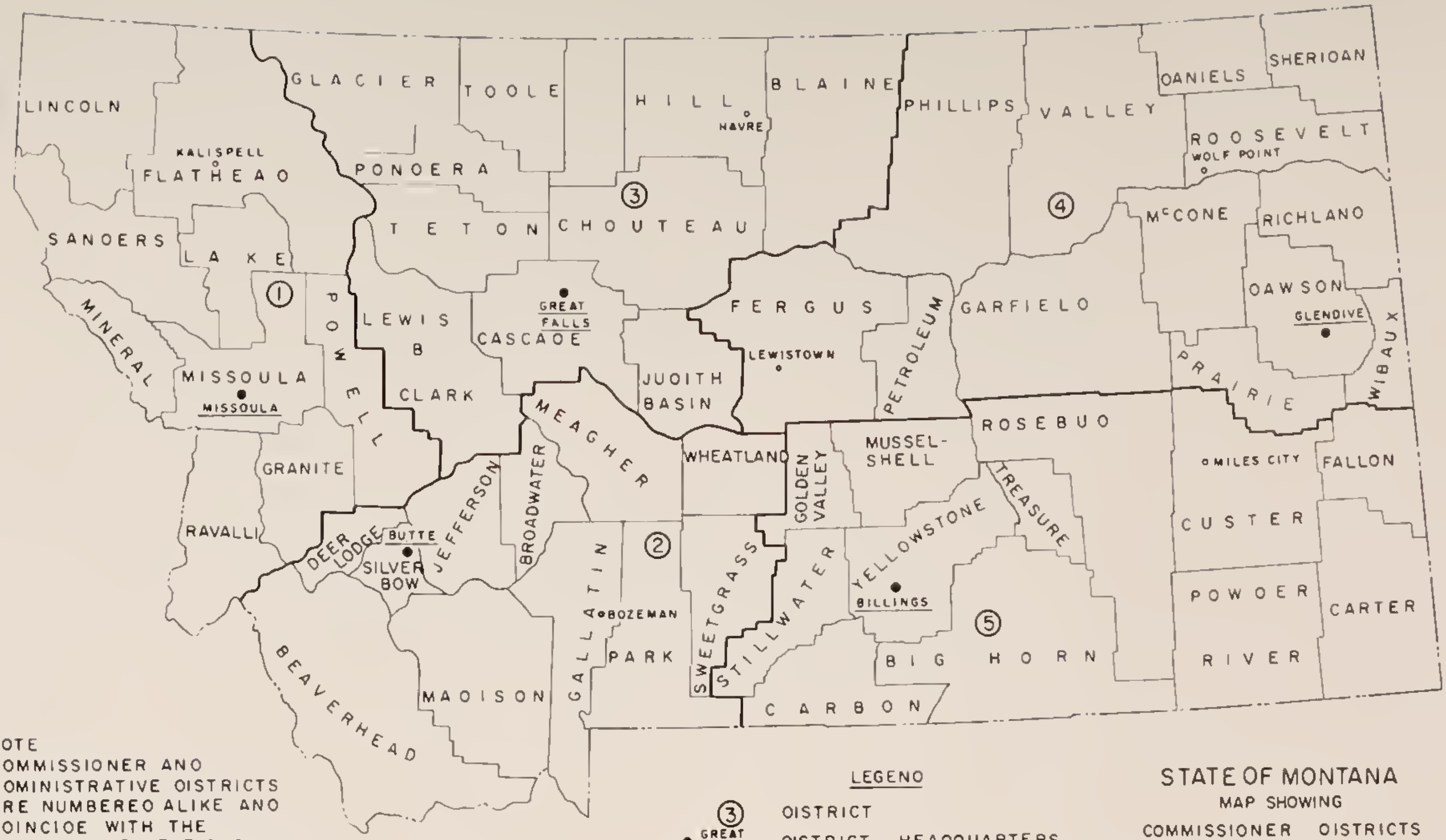
Each Division office has a small staff of clerical help, engineering designers and the like. The State Laboratory has a contingent of equipment and personnel in each Division so that close check can be made on all location and construction operations.

Each shop has a fleet of automobiles and such other equipment as is required by the functions of the Department in location, construction and maintenance. Trained mechanics are on hand to service and maintain the equipment.

Every project under construction is in charge of a resident or project engineer and staff—all trained in or learning the aspects and fundamentals of civil engineering. When these men are not busy with construction, they are working on location assignments for new or changed highways.

Two or more representatives of the Right-of-Way Engineer are assigned to each Division to maintain constant knowledge with highway and public needs and to deal expeditiously with problems confronting right-of-way procurement.

The highway system is divided into sections of convenient length for maintenance purposes and two or more men maintain each section and keep it in good operating and safe condition as is practicable.



NOTE
COMMISSIONER AND ADMINISTRATIVE DISTRICTS ARE NUMBERED ALIKE AND COINCIDE WITH THE FOLLOWING EXCEPTIONS:

(1) LEWIS & CLARK, JEFFERSON & BROADWATER COUNTIES ARE IN COMMISSIONER DISTRICT NO 1
(2) POWELL COUNTY IS IN COMMISSIONER DISTRICT NO 2

LEGEND

③ DISTRICT
● GREAT FALLS DISTRICT HEADQUARTERS
∘ HAVRE DIVISION HEADQUARTERS

STATE OF MONTANA
MAP SHOWING
COMMISSIONER DISTRICTS
AND
ADMINISTRATIVE DISTRICTS
OF THE
MONTANA HIGHWAY DEPARTMENT

STATE PARKS DIVISION

This Division is required, by Section 62-309 of the 1947 Codes, to submit a biennial report. This is being submitted to the Governor and the Legislature under separate cover.

ADVERTISING DEPARTMENT

This Department makes a regular biennial report to the Governor and the Legislature and it is being submitted under separate cover.

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